

JPRS-CAG-85-028

13 September 1985

China Report

AGRICULTURE

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13 September 1985

CHINA REPORT

AGRICULTURE

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NATIONAL

ABNORMAL WEATHER AFFECTS CROPS ACROSS NATION

OW221016 Beijing XINHUA in English 0754 GMT 22 Aug 85

[Text] Beijing, 22 Aug (XINHUA)--While floods are assailing northeast China which is traditionally drier at this time of year, most other areas are pestered with a drawn-out drought, according to the Central Meteorological Observatory.

Precipitation in the southern and western parts of north China, the Yellow and Huaihe River Valleys, most of northwest China and Sichuan, Guizhou, Guangxi and Hunan has been 20 to 60 percent less than the average for a normal year.

On the contrary, excessive rains have caused unusually heavy floods in the Liaohe and Songhua River Valleys in northeast China.

The observatory attributes the adverse weather to the weakness of subtropical high pressure and its eastward drift over the southern landmass in early July and its northward drift in August.

The drought would make it difficult to transplant late rice in some areas of southern China while the long spell of low temperatures in the northeast may postpone the ripening of crops there, the observatory says.

It also predicts that the drought may extend to Jiangsu and Anhui Provinces in east China but precipitation along the upper reaches of the Yellow River, the Weihe River Valley and southwest China would increase.

On the other hand, rainfall in northeast China is expected to lessen.

The observatory counsels intensified efforts to combat the drought in most areas and win a good autumn harvest.

CSO: 4020/344

NATIONAL

YAN JICI OPENS AGRO-CHEMICAL FAIR IN BEIJING

OW051444 Beijing XINHUA in English 0855 GMT 5 Aug 85

[Text] Beijing, 5 Aug (XINHUA)--About 2,000 scientific findings and products related to chemistry and agriculture are on sale at a fair, which opened at the Beijing Exhibition Center here today.

Contributed by 200 research institutes, universities and factories, the exhibits include new materials, coating agents, dyestuffs, chemical reagents, plastic fibers, perfumes, foodstuffs and soft drinks, chemical fertilizers and pesticides, as well as technology related to environmental chemistry, petrochemistry, biomedicine, processing and preservation of grain, fruit and vegetables.

A preservation liquid, developed by the Gansu Provincial Membrane Research Institute, can keep eggs fresh for six months in normal temperatures and keep tomatoes, apples and eggplants fresh for 40 to 60 days.

The fair has also opened two halls for promoting chemical knowledge to help youngsters broaden their vision and understand the relationship between chemistry on the one hand, a production and daily life on the other.

At the 12-day fair, suppliers and users will conduct discussions on technical cooperation, technical service and bidding for key technical problems, and sign contracts on technological transfer.

Yan Jici, vice-chairman of the Standing Committee of the National People's Congress, cut the ribbon for the opening of the fair and said that it would help the country's scientific discoveries quickly turn into productivity.

The fair is sponsored jointly by the Chinese Chemical Society and the Chinese Agricultural Society.

CSO: 4020/320

NATIONAL

NATIONAL MEETING NOTES PROGRESS IN FOOD HYGIENE

OW171322 Beijing XINHUA in English 1310 GMT 17 Aug 85

[Text] Beijing, 17 Aug (XINHUA)--Food contamination cases have dropped by one-third since China promulgated the "Food Hygiene Law" in July 1983.

Speaking at a national meeting on food hygiene work which opened here today, Vice-Minister of Health Guo Ziheng said, the standard of hygiene of food is up to 95.5 percent, greatly helping reduce the incidence of such infectious diseases as hepatitis, dysentery and typhoid.

He said that in recent years, China has run training courses of various types attended by more than 6.4 million people including food hygiene inspectors, quarantine officers and those engaged in food production and processing.

Various localities have also worked out 130 regulations or rules in line with local conditions to upervise food hygiene work.

Vice-Minister Guo said, the country has established a nationwide network for food hygiene management with 2,670 food hygiene inspection organizations staffed by 21,400 inspectors and quarantine officers.

China now has a total of 1.5 million food businesses and 7.5 million workers involved in manufacturing and selling food. Health examinations and medical check-ups are carried out to ensure food hygiene and a healthy workforce, the vice-minister said.

He pointed out that food hygiene work must serve the development of the food industry, protect the people's health and improve the living standards of the people.

Guo also criticised some departments for not paying much attention to food hygiene, and some hotels, restaurants, dining rooms and individual food stalls for selling polluted food.

He called on all departments concerned to act according to the "Food Hygiene Law," strengthen the work of food hygiene management and supervision, and improve the quality of food so as to ensure the safety and health of the people.

CSO: 4020/344

NATIONAL

NATIONAL FORESTRY MEETING OPENS IN JINAN 11 AUG

SK120723 Jinan Shandong Provincial Service in Mandarin 2300 GMT 11 Aug 85

[Text] The national scientific and technological work conference on forestry opened in Jinan City on 11 August. Forestry Minister Yang Zhong presided over the conference. Ma Lianli, vice governor of the province; and He Zonggui, mayor of Jinan City, attended the conference to extend their congratulations.

At the conference, Dong Zhiyong, vice forestry minister, delivered a speech, in which he stated: The national scientific and technological work conference on forestry is being held under the excellent situation in which our country has achieved an extensive development in conducting reforms in economic systems in both urban and rural areas. The conference is chiefly aimed at discussing and studying the first issue of how to conduct reforms in the system of forestry science and technology, the second issue of accelerating the pace of commercializing results scored in forestry scientific and technological research, and the third issue of vigorously strengthening the development and research of forestry science and technology in order to enable their results to become productive forces as soon as possible.

Vice Minister Dong Zhiyong pointed out: In order to have smooth progress in the drive of conducting reforms, we should open more avenues in research, establish funds for developing forestry science and technology and units in charge of popularizing forestry science and technology, and enhance the technical work undertaken by the forestry production units. Efforts should be made to earnestly deal with the questions concerning the employment and training of scientific and technological personnel, to simplify the administration, and to delegate more self-determination power to the research units.

The national work conference will also commend the departments and bureaus which scored outstanding scientific and technological results in their research in 1982 and 1983.

CSO: 4007/417

NATIONAL

NEW APPROACHES IN FORESTRY DEVELOPMENT URGED

Beijing ZHONGGUO LINYE [FORESTRY IN CHINA] in Chinese No 1, 17 Jan 85 p 2

[Staff Commentary: "Conscientiously Resolve New Issues in Forestry Development Under the New Situation"]

[Text] Ever since the 3rd Plenum of the 11th CPC Central Committee, the party and the state have made a shakeup in forestry into a major national policy. The forestry situation is better every year. Now a new situation and new issues have appeared in forestry development which require our attentive study and resolution.

First and foremost is correct handling of the relationship between immediate and long-term interests and a unification of economic and ecological interests. As agricultural reforms grow more intense and the rural economy becomes further revitalized, a situation has appeared in which farming, forestry, animal husbandry, sidelines, and fisheries are competing for raw materials, funds, labor and talent. The forestry production cycle is an extended one and slow to show returns. Income for workers is lower than in other sectors. If the problem of income for forestry workers is not resolved through increases, this will inevitably impact on the enthusiasm of the masses to replenish and nurture forests. Surplus rural labor and capital will not be drawn into exploitation and construction in untapped mountain areas, and farmers will remain unwilling to reforest the "two mountains"--or else will opt for economic reforestation but not reforestation for usable timber. We must consciously tap the strengths of forest region resources according to and utilizing the law of value, and under the guidance of state planning, fully develop commodity production, increase income for forest managers, and strive to make forestry worker income on a par with incomes in other planting and sowing sectors.

In forest areas managed by individuals given contracts by collectives, managers should be given even more preferences in the areas of investment and distribution. When a manager has fulfilled his state-assigned purchase quota and moves into negotiated purchase and sale for his own commodities, the local or department sectors should not shift to centralized procurement or some other method to make purchases at lower prices--all of which infringe on the legal interests of the masses. Income from collective forests should be mostly distributed to the masses once state taxes have been paid and funds

for production expenses and those necessary for capital accumulation have been put aside. Other village public outlays should not be able to eat "from this big bowl" any longer, in accordance with government regulations on the raising of public funds. The "two households" and joint entities in forestry should be further supported to engage in exploitative production, and impediments should be smoothed for them. All sorts of information services should be enthusiastically provided to nurture and support operating capabilities.

State and cooperative tree farms should fine-tune the makeup of forestry production and quickly change from one-crop farming with its lower economic results. They should follow the requirements set forth by the central leadership for reform of economic systems and use a new mindset and new operating techniques to improve operations, strengthen horizontal relationships, bring all production elements fully to life, strengthen the function of "blood formation" [zao xue 6644 5877], let shortcomings serve strengths and side-lines serve forestry, and revitalize the forestry economy. If this fine-tuning is done well, it will facilitate the organic linkage between farming, forestry, and animal husbandry, so as to make them serve one another's interests and promote one another. It will facilitate scientific forestry management and improve ecological, economic and social results.

Steadfastly revitalize the circulation of forestry products. There has already been a shrinkage of the scope and volume of centralized and assigned purchases of forestry products by the state. Policies should be relaxed with regard to those products for which the masses retain autonomy, so that in their individual or collective operations, the masses will be able to break through the separations and barriers between different locales and between different trades. The barriers which obstruct normal circulation should be resolutely eradicated. Both state and collective operations should focus on service to the masses and to production. The largest absolute portion of profits should go to the masses, without haggling with them over interests and "peeling off a layer" at every level.

Second, returns from farming to forestation should be accelerated. Long-term destruction of forests and reclamation on slopes exceeding 25 degrees have resulted in serious consequences, and such lands should gradually be removed from cultivation according to a timetable. There have been steady increases in grain yields in recent years, and with improvements in the mountain region economy, many locales have taken just such a step. If it is to be done correctly, the situation must first be clarified and measures adopted by starting with the easy ones and working to the difficult ones. There must be planning and pace. Leadership must be strengthened and responsibility assigned. All measures must be taken to assure that there is no reduction in food supplies or income for families withdrawing land from cultivation. Rather, their income should continue to rise so that they can proceed with the withdrawal, retain stability, and gradually turn the cycle into a beneficent one. In mountain regions, problems concerning food or income once land is withdrawn from cultivation can be resolved through revitalization of the circulation of forestry products. In destitute mountain areas, there can be a reduction in state levy purchases or increases in resale grain. Assistance in the form of cash or grain to destitute households, and work

credits can be implemented to open up sources of food and clothing. At the same time, state funds provided to mountain regions, such as investment in reforestation and grass-planting, expenses to protect land and water, and funds for basic construction for forestry products, can be pooled for the work of withdrawing land from cultivation to forestation, which should help quicken the pace of the process.

Another area is the further intensification and continuation of the work of propagating and implementing the "Forestry Law." This is the first year this law has been in effect. All levels of the forestry ministry should make coordinated efforts to effectuate this law. There should be a reorganization of the existing forestry regulation system. Those to be abandoned, revised, or retained should be determined in accordance with the new law. Special attention should be paid to such principles as developing a mindset for forestry development which relies on the masses. Harvest and cultivation should be combined; and use of forest resources should be lower in volume than their replenishment. Planning for timber production should be in tune with objective reality. There should be strict fines and clear incentives to bring the "Forestry Law" fully into play to protect, nurture and make rational use of forest resources.

At the present time, most of China's forest byproducts and local specialties are goods and materials in very short supply. This is due to the coexistence of the two markets and the two prices. Added to that is the shortsightedness of some cadres and masses toward forestry and certain unhealthy tendencies in the new situation. In the process of commodity circulation, there are also negative factors which may lead to the destruction of resources. For these reasons, and in accordance with the rules set forth in the "Forestry Law," we must strengthen forest management, both by preventing behavior which is destructive of forest resources and by protecting and spurring the normal circulation of forest products. We should revitalize what must be revitalized and strengthen what must be strengthened. Neither aspect can be ignored.

12303

CSO: 4007/269

NATIONAL

FISHING TIES WITH DEVELOPING NATIONS

HK060335 Beijing CHINA DAILY in English 6 Aug 85 p 1

[By staff reporter Xu Yuanchao]

[Text] China has forged new links with the Third World in an unprecedented international deep-sea fishing project and aims to develop fishing ties with developed nations.

The first Chinese ocean-going fleet to operate outside Chinese waters since 1949 has been fishing off West Africa this summer.

And a fishing agreement was signed recently between China and the United States during President Li Xiannian's visit. Chinese authorities and the U.S. side are to discuss the details of new cooperation in fisheries.

"Preparations are under way. China is expected to send boats to Alaska," an official of the China National Fisheries Corporation told CHINA DAILY.

A Chinese ocean-going fishing fleet made a voyage of 13,000 nautical miles beginning last March to the West African coast v/a the Red Sea, Suez Canal and Mediterranean. By the end of June, the fishing vessels had yielded a good catch of more than 1,000 tons, the official said.

The fishing project was under cooperation agreements and contracts with three African countries and a region--Senegal, Sierra Leone, Guinea Bissau and Spanish Las Palmas.

"The aquatic resources in the Atlantic Ocean are much more abundant than in domestic fishing farms but fish varieties seem to be similar to those in the South China Sea," said the official. Last month's catch included hairtails, hardtails and genuine porgies.

He said a large part of the catch would be sold fresh in domestic markets to relieve short supplies. At the same time, the country would gain experience through international operations to improve its fishing industry.

The fishing fleet consisted of 12 trawlers and an 800-ton cold-storage ship, all owned by four major sea fishing companies--the Yantai Ocean Fishing

Company in Guangdong Province, Zhoushan Ocean Fishing Company in Fujian Province and the Fujian-Africa Ocean Fishing Company.

China would help develop the ship-building industry and set up joint ventures for production and trade in the cooperating countries.

The official quoted Chinese Premier Zhao Ziyang as saying economic aid and cooperation would be based on equality and mutual benefit for the purposes of common development at high efficiency.

All the funds for fishing operations were raised by the four participating companies.

Other fishing fleets now operating off the West African coast come from 10 countries and regions including the Soviet Union, Japan, France, Spain, Portugal, South Korea and Taiwan.

CSO: 4020/320

NATIONAL

CHINA POPULARIZES FINE STRAINS OF COTTON

OW190842 Beijing XINHUA in English 0715 GMT 19 Aug 85

[Text] Beijing, 19 Aug (XINHUA)--China has eliminated poor cotton strains and popularized good strains on a nation-wide scale, according to the Ministry of Commerce.

The elimination of poor cotton strains and the popularization of good strains is accompanied by stress on quality since market demand for cotton is basically met.

The textile industry and consumers have become more quality-conscious and China is now a cotton exporter and has to meet the standards of the international market, the ministry said.

The state is now promoting regionalization of cotton strains. Production bases of fine cotton strains are being set up in the major cotton producing areas to grow carefully chosen fine strains.

CSO: 4020/342

NATIONAL

BILLION-YUAN SUBSIDY FOR COTTON PROCESSING

OW160902 Beijing XINHUA in English 0854 GMT 16 Aug 85

[Text] Beijing, 16 Aug (XINHUA)—The Chinese Government has granted a subsidy of one billion yuan to process 500,000 tons of ginned cotton, according to a decision of the State Council.

The cotton will be made into batting for quilts and sold at a reduced price of about three yuan per kilogram. The price for a 2.5-kilogram cotton quilt will be at most ten yuan, reported today's ECONOMIC DAILY.

The subsidized cotton, which will release valuable warehouse space, will be available for sale only to individuals and will come on the market in October.

Urban and rural residents, except for peasants living in cotton-producing areas, will be able to buy the cotton batting with coupons issued by provincial governments.

CSO: 4020/344

NATIONAL

OFFICIAL ADDRESSES MEETING ON COTTON PURCHASES

OW171442 Beijing XINHUA in English 1430 GMT 17 Aug 85

[Text] Beijing, 17 Aug (XINHUA)--Pan Yao, vice-minister of commerce, told delegates to a national meeting on the cotton industry here today that purchase of this year's cotton harvest must be made in strict adherence to contracts signed with the cotton growers.

This is the first year for China to purchase cotton by contract with the farmers; previously, the state monopolized cotton purchase and sale.

The supply and marketing cooperatives across the country have signed contracts with more than 50 million cotton growers. This new practice is aimed at adjusting production to market needs and restructuring the agricultural sector.

Pan said this year's cotton crop is good. Despite low temperatures and droughts in some areas in the early stage of cotton growth this year, the crop has been doing better since the beginning of this summer when the temperature rose and there was an increase in rainfall.

The vice-minister said, "We must purchase cotton in a timely manner, in strict observance of the contractual quantities, quality and prices."

He said, the state has made special arrangements to earmark the funds needed for cotton purchase. It has invested 500 million yuan to build cotton warehouses with a total capacity of 1.5 million tons, the largest sum to be invested in a single year in this item since 1949. The first batch of warehouses with a total capacity of 500,000 tons is expected to be completed by the end of this year, and the second batch, with a capacity of one million tons, will be completed by next year.

He said, state standards must be strictly observed in examining and inspecting this year's cotton purchase.

It has been forecast that after the contractual cotton purchase has been made there will be still some cotton left in the hands of the growers. He said that this cotton will be sold by the growers themselves in accordance with state stipulations, and the prices will be subject to market factors. The supply and marketing cooperatives should actively take part in this market activity, he stressed.

NATIONAL

MEETING DISCUSSES USES FOR WASTE COTTON

OW161358 Beijing XINHUA in English 1324 GMT 16 Aug 85

[Text] Beijing, 16 Aug (XINHUA)--China has collected nearly 300,000 tons of waste cotton in the past three years, accounting for an average annual increase of 22.5 percent compared with the previous three years, according to a national meeting on the cotton industry now in progress here.

In the first half of this year, the country recovered 48,700 tons of waste cotton, an increase of 6.7 percent over the same period of last year. In the meantime, sales of waste cotton increased 13.7 percent with a corresponding decrease in stock.

More than 70 percent of China's waste cotton is used to make paper to make up for a timber shortage. In addition, waste cotton is used to produce regenerated cloth and wadding.

At present, the Ministry of Light Industry is making plans to produce 30,000 tons of cotton pulp over the next two years.

The meeting decided to promote the use of waste cotton further in pillows, cushions and sofas, and to use broken unginned cotton to cultivate edible fungus.

CSO: 4020/344

NATIONAL

SURPLUS OF DOMESTIC FERTILIZER

OW032000 Beijing XINHUA in English 1847 GMT 3 Aug 85

[Text] Beijing, 3 Aug (XINHUA)—China will adopt measures to cut the import of chemical fertilizer as there is a surplus of domestic fertilizer at present, Tan Zhuzhou, vice-minister of the chemical industry said here today.

Speaking at a nationwide telephone conference on chemical production, Tan said 2.78 million tons of phosphate fertilizer and 4.71 million tons of ammonium carbonate were overstocked in the first six months of this year due to reckless import of fertilizer and problems in commodity circulation.

He pointed out that the overstocking of phosphate fertilizer has caused cutbacks in production and affected the production of sulphuric acid, phosphate ores and pyrite. Output of phosphate fertilizer was reduced by 31 percent, pesticide by 25.5 percent and phosphate ores by 46.1 percent. Sales of ammonium chloride will be sluggish, and ammonium nitrite and urea were overstocked in some areas.

"However, the overstocking of chemical fertilizer and pesticide is a temporary phenomenon", he said. "China's fertilizer industry has not yet met the needs of domestic farm production on the whole.

"We must make every effort to overcome the present difficulty and cannot stop production or shift to other production. Enterprises which have stopped production for the time being, should maintain their equipment and be prepared to resume full productivity," the vice-minister stressed.

Departments in Sichuan, Jilin, Heilongjiang, Shandong and Shanxi provinces have already examined and approved the revised fertilizer import program, sent people to promote sales in the rural areas and encouraged peasants to use more fertilizer by offering them credit, loans and price reductions.

Chemical plants have been given tax exemptions and encouraged to shift their product mix and develop new products.

CSO: 4020/320

NATIONAL

CREDIT TIGHTENED FOR RURAL, SMALL TOWN ENTERPRISES

Bank Acts To Restrict Loans

Beijing ZHONGGUO CUNZHEN BAIYE XINXIBAO in Chinese 23 Jul 85 p 1

[Article by Zhao Lianzhi [6392 6647 1807]]

[Text] Chinese Bank of Agriculture Main Office Director Ma Yongwei [7456 3057 0251] noted at the recently convened meeting of Bank of Agriculture branches from throughout the country that during the last half of this year, it will be necessary to continue to institute a program of all-encompassing control. The total amount of increase in Agricultural Bank Loans of all kinds must be held within 14.1 billion yuan. This includes loans of no more than 2 billion yuan to rural and small town enterprises, and loans of no more than 700 million yuan to village and towns for technical improvements. In this regard, the Bank of Agriculture intends to take the following actions:

1. Strict control over loans for investment in fixed assets, the Agricultural Bank not handling savings and loans for self-funded capital construction. Some departments, jurisdictions and entrepreneurial units do not have sufficient funds for self-funded capital construction, and the bank will not provide them loans. Though sums of less than 50,000 yuan for piecemeal purchases of individual pieces of equipment and individual construction projects are not within the purview of investment in fixed assets, the bank still will not issue loans for these purposes. This year's loans for technical improvements must be strictly controlled within plan norms. In principle, no loans will be issued as replacements when old loans are collected, as revolving funds, or for new capital construction or new fixed assets by market towns, collectives and rural and small town enterprises. Some enterprises use the circulating funds they have for self-funded capital construction, and then when circulating funds are insufficient, they ask the bank for a loan. This is not permissible. Enterprise funds must be strictly checked, and circulating fund loans must be brought under firm control as well and be consistent with policies. Only when there are set proportions of funds on hand can loans be granted.

2. Loans to rural and small town enterprises must be controlled within specified plan norms. Development of rural and small town enterprises has to be planned in an overall way taking all factors into consideration, acting in accordance with capabilities, and taking into full account ability to provide

energy, material and funds support and market demand. Self-raised funds must be the main source of funds, and the funds norms set this year for rural and small town enterprises everywhere may not be exceeded. Where they have been exceeded, they must be rolled back, and the period allowed for roll back is not to go beyond the end of September. In principle, no further loans will be made this year for new construction projects. Authority to examine and approve loans for new construction projects is to be taken back by provincial, autonomous region, and directly administered municipality branch banks. New construction projects are to be conscientiously checked, classified and assigned precedence under leadership of the local government acting in conjunction with relevant departments. For projects that offer good economic benefits, that are truly urgently needed by society and for foreign trade exports, and for which further investment of a small amount of funds would enable completion, the State Council has decided to issue financial debentures and use high interest loans for a solution. Enterprises that need regular circulating funds cannot be supplied them *carte blanche*. The principles of "determining loans on the basis of excellence," "determining loans on the basis of sales," and "determining loans on the basis of newness" are to be observed. Agricultural banks in all jurisdictions should now help enterprises tap their potential for funds, actively clarify and collect funds that are due, deal with materials and goods that have accumulated in inventory, distribute profits equitably, and expand the power of capital that village and town enterprises possess.

Wringing Funds From Current Operations

Beijing NONGMIN RIBAO in Chinese 22 Jul 85 p 1

[Article by Yuan Hang [6678 5300]]

[Text] The state has now decided to tighten money and control credit. This has posed certain difficulties for the development of rural and small town enterprises, causing some people to feel pessimistic about their prospects for development. Some of the causes for these feelings are understandable, yet some problems should arouse the watchfulness of comrades in rural and small town enterprises. Matters frequently have two sides. Though the shortage of funds that rural and small town enterprises are currently encountering is a difficulty, it is also an opportunity. Farsighted leaders of rural and small town enterprises should take this opportunity to overhaul and consolidate their enterprises, to readjust the industrial structure of their enterprises, and to set to rights their enterprises' industrial policies. If this job is done well, rural and small town enterprises will not only not be hurt, but may become more healthy and advance more steadily to occupy an unassailable position in future competition.

Many of the problems people discuss are problems about the speed of development of rural and small town enterprises. However, in terms of the country as a whole, it is necessary to distinguish circumstances and provide tailored guidance. Last year village and town enterprises developed very rapidly. In the pursuit of high speed, some places made more loans than they should have and these places should now turn to steady development. Some places have just begun and will want to speed up development and maintain it in the future. In short, it is necessary to distinguish circumstances,

halting, contracting or developing as circumstances require. Speaking as rural and small town enterprises, it is important that a rational industrial structure be formed in the process of development, and that one's own industrial policies be set to rights. Speed should be guided by rational industrial policies as the only way of avoiding blindness in action.

Correct industrial policies should be based on the exploitation and use of local resources rather than mortgaging the present for the future or trying to make bricks without clay, much less to exceed one's own financial and material resources in launching new projects. We say that without work there is no wealth, but "work" is not limited to a single kind. "Work" also includes the processing of farm products. The use and processing of farm products is to use reproduction resources that have not been fully used or fully exhausted for which prospects are extraordinarily broad. However, for various reasons the major part of these broad prospects have yet to arouse sufficiently serious attention on the part of rural and small town enterprises. Second is production of construction materials. Not only is there a wide market for construction materials, but raw materials for them pose no problems. Third is mining, with the opening of small ore mines and small coal mines. Fourth is all sorts of facilities to serve agriculture, such as hauling and warehousing. These are all within the purview of rural and small town enterprises. The significance of these undertakings that provide services to agriculture before and after production is very great. One might say that without them, there is no use talking about the modernization of agriculture. This discussion is about use of this opportunity to set to rights one's own industrial policies, readjust one's own industrial structure, and to base development of rural and small town enterprises on the use of local raw materials and labor to achieve much from a small expenditure of money, and to invest little to produce much.

Yet another item in the use of this opportunity is to overhaul and consolidate enterprises, improve administration and management, and improve product quality. Here the emphasis is on talking about places requiring improvement in rural and small town enterprises' management and use of funds. Some enterprises are not sufficiently equitable concerning profits distribution. The proportion used for the rural and small town enterprises themselves is too little. It has been estimated that the overall average for the country as a whole is 30 percent, and most of this 30 percent is used for putting up new vendor's stalls. Some rural and small town enterprises cannot promptly collect loans that they should collect. Consequently, they use a fairly large amount of funds. In still other cases, once an enterprise contracts with individuals or partnerships, it does not figure depreciation on plant buildings and equipment. Enterprises rush to purchase while materials pile up and excessive reserves "stagnate" their capital, etc. If a little conscientious work is done in these regards, a large amount of capital could be produced.

In many places rural and small town enterprises have become the mainstays of the the rural economy and the hope of rural villages. As a result of overhauling and readjustment, they should make new contributions to the industrialization of China's rural villages.

9432
CSO: 4007/416

NATIONAL

FARM TO NONFARM TRANSITIONAL ECONOMIC FORM ANALYZED

Taiyuan JINGJI WENTI [PROBLEMS IN ECONOMICS] in Chinese No 10, 25 Oct 84
pp 27-30, 34

[Article by Nie Chunyu [5119 2504 3768]: "Transitional Economic Forms in the Transformation from Agriculture to Nonagriculture for China's Farm Population"]

[Text] Eight hundred million of China's billion people are on the farm. The first question to be faced in modernizing them is a consideration of what form is to be adopted in the transformation from agriculture to nonagriculture for a considerable portion of this 800 million people. Since the 3rd Plenum of the 11th CPC Central Committee--and especially since the promulgation of Document No 1 in 1984--a new model of production organization has been set up in China's cities and countryside: concrete economic entities in farm townships. This appearance led to the feasible adoption of transitional form for the transformation from farming toward nonfarming and provided new experience for bringing this transformation about. For this reason, this article attempts to sketch the experiences of Shanxi and to discuss some of the author's views on these concrete economic entities in farm townships.

I. The Objective Necessity for the Birth of Concrete Economic Entities in Farm Townships

The division of labor, as everyone knows, generally "allows for division of the production of society into the two major categories of agriculture and industry" ("Collected Works of Marx and Engels," Vol 24, p 14). Moreover, the major concentration of industrial production is in the city, while agriculture is concentrated in the countryside. Thus, with reference to the local economy, the production of society can be divided into the urban economy and the rural economy. The concrete economic entities in rural townships to be discussed in the present article refer to a new concept demarcated by how the urban economy and the rural economy are to be separated. This concept refers to the various forms of economic organization engendered at the interface between the urban and the rural economy in which farmers who have left the soil still rely on the rural economy, but take the urban economy as their source of employment and engage directly in trades which serve the urban or the rural economy either in the villages or in urban industry and mining.

This "interface between the urban and the rural economy" refers to the various links in economic organization such as production, exchange, distribution, and consumption which differ from those in the urban economy and yet transcend the category of agriculture in the broadest sense of the word. It is a transitional economic form situated between the two.

"Reliance on the rural economy" means that personnel engaged in concrete economic entities in rural townships still retain their status as farmers and that their "home base" is still in the villages.

"Economic organization" refers to the various joint economic entities active in rural townships which have independent accounting, take responsibility for their own profits and losses, and represent themselves to the world in the status of legal economic persons.

At the present time, the causes for the birth and formation of concrete economic entities in rural townships throughout China are diverse; primarily, however, they have been determined by developments in the situation in both the rural and the urban economies and by conditions in China's natural economy.

First of all, from the standpoint of circumstances in the rural economy, concrete economic entities in rural townships are the necessary product of the development of the household responsibility system and of the specialized household. The agricultural production responsibility system with its foundation in the household responsibility system has undergone abnormally rapid development in China's villages since the 3rd Plenum of the 11th CPC Central Committee. Moreover, the unique charm of this system has caused farmers to improve output, increase income, enhance their living standards, and invigorate the rural economy. However, this upsurge in the rural economy has also posed a series of new issues for us. 1. The rise in productivity after implementation of the household responsibility system has led to the appearance of a large surplus of rural labor and a large dispersal of funds. This labor surplus must either leave the soil but not the countryside or else leave the countryside altogether to seek new work. At the same time, new investment opportunities need to be created for these dispersed funds. 2. Decentralized land management ties the farmer to his land. Each household has its own plot and everyone works the fields; and in this way, the problems of supplying food and shelter are addressed. But once these food and shelter problems have been solved, farmers look for a broader measure of work and affluence. Thus, the question of how a segment of the farm population can withdraw from the land and take up other occupations has become the key to the implementation of specialized, socialized households in large numbers has led to a serious demand among farmers for a breakdown in the walls and mutual barriers between town and country, and the opening of a new road with special Chinese characteristics which effaces rural-urban distinctions. Based upon this objectively realized demand, there have appeared in China concrete economic entities in rural townships as a transitional economic form mediating the transformation from an agricultural to a nonagricultural population. Taking Xinzhou Prefecture in Shanxi as an example, figures as of the end of May 1984 show that over one-third of the total labor force of the prefecture

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were farmers now in other occupations, with 1.05 million mu of land being reallocated in the process. Relative concentration of land led to major development of specialized commodity grain households--up from 19,000 to 36,000. Over 10,000 farmers had already organized or were in the process of organizing concrete economic entities in rural townships. They had entered the townships to open factories and shops, engage in cultural occupations, and build homes--all with favorable economic returns. According to statistics for Yuanping County, industrial profits from the creation of all forms of concrete economic entities were up 149.7 percent in the first quarter of this year over the same period last year. Government revenues increased 28.8 percent. Various tax revenues were up 11.39 percent. Commercial profits were up 20 percent while net commercial purchases and imports were up 85 percent. Given the extensive increases in reinvestment in production, savings deposits among the rural and township populations reached 100 yuan and 471 yuan per capita, respectively. These figures were representative of a net increase of 15 and 98 yuan, or 17.6 and 26.2 percent, respectively. A total of 2,658 new concrete economic entities were organized which drew 32,174 farmers to leave their fields.

Second, from the standpoint of reforms in the urban economic system, the new systems inevitably encourage development of concrete economic entities in rural townships. As the "Government Working Report" delivered by Premier Zhao Ziyang to the Second Meeting of the Sixth National People's Congress pointed out; "The time has come for reforms in the system of employment of labor. We must gradually lower the proportion of fixed labor and extensively raise the ratio for temporary and seasonal labor. We must affirmatively promote a labor contract system." "Rural construction crews should be permitted to enter bids and take on construction assignments in urban areas." As these major directives are implemented and developments take place in urban reforms, this should lead necessarily to the formation of exceptionally favorable conditions for farmers to enter urban industry and mining. At the present time, Shanxi is witnessing a shift in factory production toward rural areas, and a new trend toward farmers entering factories to take on production assignments. For example, the Yuanping steel mill in Xinzhou Prefecture, which used to hire temporary and negotiated help for mining, culling, loading and unloading, transport, and small scale basic construction and repair within the factory, found that there were large outlays, high costs, and lowered profits. Now, 11 setups by farmers in rural township concrete economic entities have taken over the work procedures and delegated them to 300 farmers. Through such cooperation, farmers collected 1.5 million yuan in income for a profit of 1 million, or more than 3,300 yuan per worker. Meanwhile, the factory lowered its raw steel costs from 250 to 241 yuan per ton, resulting in expanded profits of more than 500,000 yuan from this project alone in 1 year.

Thirdly, looking to Shanxi's natural and economic features, the province has little land and much coal; and these two major factors make for broad future development for concrete economic entities in rural townships.

A. The lack of land. Shanxi has a total area of 234.93 million mu, or 9.6 mu per capita, which is one-third less than the national average of 14.4 mu

per capita, which is one-third less than the national average of 14.4 mu per capita. Of this, tilled land in the province totals 58.82 million mu, or 2.4 per capita. Over 30 million of this figure is located in mountainous and hilly areas, while a mere 28 million is flatland and river valleys. With the development of industry in the province since liberation, industrial and mining towns have come to occupy over 12 million mu of tilled land; and projecting from this figure, while taking special notice of future requirements for site construction for energy and heavy chemical plants by the end of the century, more than 8 million more mu of tilled land will be taken over for industrial and mining communities. In general, 70 percent of the land so taken is desirable flatland, which means that factories and mines will be constructed on 5.6 million mu of flatlands. This will leave only 22 million mu of such desirable flatland for farming. Assuming that the ratio of urban to rural dwellers in Shanxi remains 1:5 at the end of the century, Shanxi's farm population will be 23 million (given estimates for a total population of 29 million.) The thought of so many farmers on so little land is unimaginable; and such a situation will bring much hardship to Shanxi's farmers to develop agriculture. But in another respect, it will drive farmers off the land and into other occupations. And so, the process of successfully transforming an agricultural into a nonagricultural population will be through such various measures as concrete economic entities in rural townships.

B. The prevalence of mines. This refers to three constraining factors.

(1) Mining resources are abundant. Shanxi has estimated coal reserves of 870 billion tons and proven reserves of over 200 billion. This is one-third of totals for the nation as a whole. Shanxi also has abundant reserves of such minerals as copper, aluminum and iron, with proven bauxite reserves of more than 300 million tons. Based on ore grading, copper ore reserves are proven at more than 3 million tons, while iron reserves total 2.8 billion proven tons. Moreover, Shanxi has considerable deposits of limestone, gypsum, asbestos, and precious stones. (2) Broad distribution. The above-mentioned mineral resources are scattered all over the province. Coal-bearing areas total 56,700 km², which is 36.2 percent of the total area of the province, and are found in 65 percent of the province's counties (and municipalities.) (3) Large-scale energy and heavy chemical industry sites are now being built, and long-idle reserves will soon be put into action. The conjunction of these three factors provides for an expansive future for concrete economic entities in Shanxi's rural townships. The abundance of mineral resources provides reliable preconditions and a reliable base for such entities. The distribution of these resources creates favorable conditions for them. Moreover, construction in energy and heavy chemical industries opens up broad prospects for their development.

II. Basic Characteristics of Concrete Economic Entities in Rural Townships

As a new model of organization for production, the features of concrete economic entities in rural township include the following:

A. Diversified ownership. Because workers in these entities have come from the surplus in rural labor force and funds come from all facets of society, ownership of the means of production is manifestly diversified. Looking at

the Shanxi situation, these entities primarily accumulate funds in the following manners: (1) Rural collective economic organizations provide the money and farmers take assignments. This is what is known as the collectively owned economic entity. (2) State-run industrial, mining, and institutional enterprises units put up funds based upon their own needs, and farmers take assignments. This is what is known as the cooperative concrete economic entity linking the state and farm economies. (3) Voluntary partnerships between individual farmers who collect capital and operate the entity, otherwise known as cooperative concrete economic entities between farmer and farmer as partners. (4) Joint accumulation of capital between collective economic organizations and individual farmers, with farmers taking assignments. This is also known as the cooperative concrete economic entity linking farmers with collective economic organizations. (5) Individual farmers who collect capital and run their own operations.

B. Independent operation and management. The greatest difference between concrete economic entities in rural townships and laborers from communes and brigades who in the past were sent to urban factories and mines to take up industrial or sideline production is that operators now have complete autonomy over personnel, finances, goods and production, supply, and sales. They operate independently and take responsibility for their own profits and losses within the bounds set by state laws and regulations.

C. Small and diversified scale of operations. The "small scale" is determined by the capital, technological, and equipment conditions of the entity itself. "Diversification" is determined by the vastness and variety of China, and the different economic and natural conditions in different localities. Farmers desiring to leave the farm and go to urban areas to engage in industry, commerce, and transportation must avail themselves of the advantages of small scale, diversity, and small investment with quick returns. Looking at the Shanxi situation, farmers are fully aware of this and have made the most of the situation. The more they do in such concrete economic entities, the livelier such entities get. They play a positive role which would be difficult to replace in the rural and urban economies. For example, since 1980, the Dongfu brigade in the city of Yuncheng has in 5 short years developed from 4 such entities to 53, in such areas as shops, hotels, restaurants, clothing factories, and printshops. Fixed capital has grown to 2.67 million yuan, and the average income per capita in the brigade has jumped from 52 yuan to 496. The makeup of labor has gone from 10 percent in nonagricultural production in 1979 to 70 percent today.

D. Relaxed organization of operations. "Relaxed" is to be construed with reference to the high level of centralization of the past. Looking at these entities as they exist in Shanxi today, they embody what Marx called "free and equal conjoining of producers," ("Collected Works of Marx and Engels," Vol 2, p 454). Within these entities, they abide by the principles of voluntariness, equality, and mutual benefit, with equal concern for the economic interests of all parties. All production and operation activities are done on the basis of the laws of pricing, gleaning the largest economic return from the smallest expenditure of labor. When the economic relations between such entities and the various departments and units is being worked

out, equal-value exchange is adhered to, to assure that no party's interests are damaged, and really and truly arriving at a situation in which common development takes place on the basis of equality and mutual benefit.

III. The Major Significance of the Birth and Development of Concrete Economic Entities in Rural Townships

Some people feel that the appearance of concrete economic entities in rural townships has been primarily to provide an outlet for the surplus in rural labor force. My view is that this is just part of the story. The problem of surplus labor needed to be addressed. Moreover, it has been adequately addressed through the organization of these entities. But this is only one side of the issue. Even more significant is that when farmers leave the land and go to urban mines and factories to start shops, factories, engage in construction or transportation, they break out of the limitations of the rural economy and move toward a transformation from an agricultural to a nonagricultural population which has special Chinese characteristics. This results in a realization of China's modernization and a new road toward the elimination of differences between town and country.

First of all, the birth and development of these entities breaks through the wall separating the urban and rural economic systems from one another, and creates a new situation in which China's urban and rural regions and China's industry, commerce, and agriculture assist one another. Since the 3rd Plenum of the 11th CPC Central Committee, China's rural economic system has gone through three waves and two stages of reforms. The first wave was the widespread enactment of the agricultural production responsibility system with its bases in the household responsibility system. It led China's rural economy into a stage of development which had as its major embodiment the household assignment. The second wave was the rise of the specialized household. It broke through the old constraints holding the farmer exclusively to planting the fields. It brought rapid development to diversified operations with the specialized household as the major embodiment. This marked the fact that the rural economy was now entering the new stage, the development of commodity production. Still, the farmer remained unsatisfied. Guided by Central Committee Document No 1 of 1984, farmers began to break out of the boundaries of commune and brigade, and ventured bravely out from the farm to urban industrial and mining endeavors. They organized diverse types of concrete economic entities in rural townships and gave form to the third wave of rural reform. The appearance of this wave gave the urban economy an element of the rural economy, and brought the rural economy funds from the urban economy. Thus, these entities have created a new situation in which town and country and industry and agriculture assist one another.

Second, the birth and development of these entities created new experiences for transformation of China's farm population to a nonfarm population. In one respect, the objective real demands of socialist construction require China now to modernize and turn a considerable segment of the farm population into a nonfarm one. In another, there is the quite low level in development

for China's production. This contradiction constrains and influences the road and mode of China's modernization. If reliance is placed solely on the state to provide funds for its realization, the pace will be slow and it will take a long time. Thus, we must find a new road toward stable advances and healthy growth for China's agriculture, as well as enable it to modernize quickly and eliminate the distinctions between town and country. Concrete economic entities in rural townships are just the thing to become a transitory economic form and lead the 800 million farmers to go into industry, commerce, construction and transportation, ultimately leading to an inevitable acceleration in the process of China's modernization and creation of conditions for a reduction in the urban-rural distinction.

Thirdly, the birth and development of these entities have taken China on a new road in the urban system of labor usage. Urban construction development is at the heart of China's overall economic development. It requires adequate supplements of labor force, yet cannot exceed its fixed capacity to assimilate such a force. Thus, it is necessary that there be a fixed long-term employment force for urban construction. At the same time, however, there should be a more flexible labor force which freely moves back and forth, depending on the needs of particular times, particular scales of construction, and different types of work to be done.

Concrete economic entities in rural townships are just such an "intermediate contingent" between urban and rural areas. They have the countryside as their "home base" and have urban employment opportunities in the industrial and mining economy as their goal. They can extend and shrink, grow larger or smaller, go forward or retreat, and engage in industry or in agriculture. In this way, they can both address the issue of surplus farm labor and give flexibility and diversity to the urban system of labor usage. They work with manifest results in both of these areas.

IV. Several Issues Worth Studying

Based upon the above analysis, the birth and development of concrete economic entities in rural townships in China not only are required by developments in the urban economy; but are also the necessary product of circumstances in the development of the rural economy as well. Nevertheless, if such entities are to grow in a healthy fashion over the next decade or two, the following two issues are worthy of our concentrated study.

A. Farmer understanding of rural township concrete economic entities must be improved. As a new model of production organization, these entities in their initial stages may have certain side effects. This is especially the case with regard to relations between the planned economy and market adjustments, where the problems may be even more numerous. How these issues are to be correctly understood relates to whether these entities are to come to a premature end or come to be the key to smooth development. I feel that the major point is that guiding ideology must abandon the traditional idea that the more public a system of ownership is, the purer and better it is, and fully realize that these entities, spun off from the villages, are a new embodiment incorporating different kinds of ownership. Likewise, they

are something which socialist economic construction cannot do without. For this reason, such entities should be taken into consideration when guiding principles and policies are being drafted. When relations between various kinds of economic organizations are being adjusted, the interests of rural township concrete economic entities should be considered in accordance with the laws of value. It is only in this way that the healthy development of such entities is to be assured.

B. Comprehensive research on such entities should be strengthened. From the standpoint of current development trends in the makeup of Shanxi's urban and rural economies, these entities are going to be a topic for comprehensive research. They comprise heavy and light industry, along with construction and transportation, etc. In sum, concrete economic entities in rural townships are economic organizations which are catchalls and have everything one would expect to find in them. If we look at this issue solely from the point of view of either the urban or the rural economy, it would be difficult to avoid one-sidedness. For this reason, we should proceed from the overall situation for China's national economic construction and carry out comprehensive research.

12303

CSO: 4007/136

NATIONAL

BRIEFS

CHINA DRAUGHT ANIMALS--Harbin, 18 Aug (XINHUA)--According to the national seminar on animal husbandry and modern veterinary technology that closed in Heilongjiang's Qiqihar City on 18 August, China currently has more than 100 million oxen, horses, mules, donkeys, and other draught animals, as well as over 300 million hogs and more than 150 million sheep. [Text] [Beijing XINHUA Domestic Service in Chinese 1249 GMT 18 Aug 85 OW]

PRC AQUATIC PRODUCTION--China's total output of aquatic products amounted to 2.52 million tons in the first half of this year, an increase of 8.3 percent over the same period last year. [Summary] [Beijing Domestic Service in Mandarin 1200 GMT 12 Aug 85 OW]

TOBACCO PRODUCTION GREATER THAN MARKETING--Based on information from revelant sectors: This year the State plans to purchase 28 million dan of flue-cured tobacco, but because output has been large, the state needs to purchase 38 million dan. This year Hebei plans to purchase 75,000 dan, but many actually purchase between 120,000 to 140,000 dan. After autumn, the production of flue-cured tobacco could once again be greater than sales. There are four reasons for this: first is the readjustment of rural production; areas sown to grain have been reduced and areas sown to tobacco have increased. 2) Tax revenues from tobacco in certain areas are profitable, compelling other areas to plant tobacco. 3) The income from planting tobacco is large; one mu of tobacco generally remits about 300 yuan, expenditures are reduced and income is more than planting grain or cotton. 4) The existence of some small cigarette factories not included in government plans, and their purchase of tobacco not included in plans. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 16 Jul 85 p 2]

ABUNDANT WATER RESOURCES--China's groundwater resources total 870 billion cubic meters per year. In terms of distribution, there is more groundwater in the southeast than in the northwest. The volume of water that can be extracted every year is 290 billion cubic meters, but at present only 74 billion cubic meters are extracted every year. [Summary] [Hefei ANHUI RIBAO in Chinese 21 Jul 85 p 1]

PLA MEAT, VEGETABLE PRODUCTION--According to ZHONGGUO SHIPIN BAO [CHINESE FOODS], over the past 3 years, the People's Liberation Army has actively engaged in agricultural and sideline production, and the receipts of various PLA farms have increased 3.1 times over the past 3 years, showing an average annual increase of 60.7 percent. Based on the standards of supply, the military is now able to produce 88 percent of the meat and 68 percent of the vegetables it needs. [Text] [Beijing Domestic Service in Mandarin 2230 GMT 31 Jul 85 OW]

CSO: 4007/417

TRANSPROVINCIAL AFFAIRS

UNSEASONAL RAIN REPORTED IN NORTHEAST

OW131118 Beijing XINHUA in English 1033 GMT 13 Aug 85

[Text] Changchun, 13 Aug (XINHUA)--The Songhua River-Liao River Plain in northeast China, which seldom has much rain, has been suffering intermittent rain and unusually low temperatures over the past month.

The average rainfall in the region in the past month was 264 mm--30-40 percent more than in the same period in a regular year, Jilin Meteorology Institute Director Zhang Shaoqing said here today.

The average temperature in the region has been one degree centigrade lower than in the same period of a normal year, he added.

The rain and low temperatures have resulted in the highest July relative humidity in Changchun City in 30 years. In the past fortnight, Zhang said, there was even a continuous 90 percent relative humidity. Houses in Changchun, as elsewhere on the plain, were uncomfortably moist.

The region also got little sunshine in July. According to the director, there were only 100-150 hours of sunshine in July in Jilin Province, one-third less than in the same period in a regular year.

Zhang expected that these conditions would continue in the region for some time.

CSO: 4020/342

GANSU

GANSU MEETING DISCUSSES WINTER WHEAT PRODUCTION

HK040415 Lanzhou Gansu Provincial Service in Mandarin 2300 GMT 3 Aug 85

[Excerpts] As commissioned by the provincial government, the provincial agricultural department held a meeting at the end of July on winter wheat production in eastern and southern Gansu. Responsible comrades from 31 counties, cities, and districts in Pingliang, Qingyang, Tianshu, and Wudu prefectures attended.

After analyzing and summing up the development of winter wheat production in the province in recent years and the reasons for the drop in output this year, the meeting pointed out that eastern and southern Gansu are the concentrated winter wheat areas in Gansu, their output accounting for 85.4 percent of the provincial total. Promoting winter wheat production in those areas plays a very important role in the agricultural production of the whole province.

The main reason why winter wheat production declined this year was that agricultural science and technology popularization work failed to keep abreast of needs. The main expressions of this are: The strains of winter wheat are a mixture, the fine strains are no longer fine, there are too few rust-resistant strains, cultivation methods are rough, the soil lacks fertility, the crop rotation areas has been reduced while the area of land on which the same crop is grown every year as expanded, and so on.

The meeting pointed out that the key to grasping winter wheat production lies in vigorously popularizing agricultural science and technology. It is first necessary to step up the selection, import, and renovation of seed strains. Attention must be paid to their abilities in resisting drought, cold, and diseases. Second, it is necessary to readjust the cropping structure, practice rational rotation, improve cultivation techniques, and increase total output by improving yields. Forecasting of and action against plant diseases and insect pests must be done well.

CSO: 4007/413

GANSU

MEETING DISCUSSES THREAT OF STIPED WHEAT RUST

HK070257 Lanzhou Gansu Provincial Service in Mandarin 2300 GMT 6 Aug 85

[Text] A recent meeting held in Pingliang Prefecture by the Shaanxi-Gansu-Ningxia coordination group for the prevention and cure of stiped rust in the winter wheat crop stated that this plant disease will continue to pose a serious threat, and this must arouse people's vigilance and attention.

This meeting was organized by the All-China Forecasting Center for Plant Diseases and Insect Pests. The 17 participating agricultural scientists and plant protection personnel from Shaanxi, Gansu, and Ningxia studied the laws governing the spread of striped rust in the winter wheat crop in eastern Gansu, Henan and Hebei to the east of Shaanxi, and in Shanxi, and considered schemes for dealing with it.

The meeting held: The striped rust in the winter wheat this year was the most serious for some 20 years. The reason for the spread of the disease is that large areas of the winter wheat were sown to strains apt to be infected by it, there were great numbers of bacteria, and conditions in spring were favorable for the spread of the disease.

In view of these problems, the meeting proposed that it is necessary to reduce and eliminate winter wheat strains apt to be infected by striped rusts, step up technical training, cultivate rust-resistant strains, keep regular stocks of anti-rust chemicals, improve the accuracy of forecasting, and thus control and halt the harm done by striped rust in the winter wheat as soon as possible.

CSO: 4007/413

GUIZHOU

GUIZHOU URGES STRUGGLE AGAINST NATURAL DISASTERS

HK180544 Guiyang Guizhou Provincial Service in Mandarin 15 Aug 85

[Text] The province's party and government at various levels have actively organized the cadres and masses to join in the struggle against natural disasters. At present, cadres at various levels and the masses have, under the great support of the state, upheld the practice of fighting against disasters by engaging in production and have actively taken part in the struggle against natural disasters.

In this year, the province's climate has been so unusual that natural disasters have taken place one after another. For this reason, the provincial CPC Committee and the provincial government respectively held meetings on planning the work of struggling against the disasters and providing disaster relief.

Leading comrades of the provincial CPC Committee and the provincial government, as well as responsible persons of party and government organizations at various levels, went to the disaster areas grasping the implementation of relief measures and supervision of work. The party committees and governments at various levels have repeatedly sent work teams to the disaster areas for organizing relief work. At the same time, the central and provincial authorities have allocated more than 30 million yuan of relief funds, 24,000 tons of chemical fertilizer, over 3,000 tons of oil, and about 1 billion jin of grain as the relief.

Under the great support of the state, the cadres and masses of disaster areas have been enthusiastically struggling against the natural disasters. According to statistics, in Qian Dongnan Autonomous Prefecture and Tongren Prefectures alone, there will be more than 1.1 million people taking part in the struggle against disasters. In addition, the number of machinery used will be over 134,000 items.

With the unremitting efforts of the cadres and the masses, the people's livelihood and production in the disaster areas have been gradually returned to normal. In addition, many areas strive to grow such late autumn crops as [words indistinct], in order to compensate for the damage caused by the disasters and strive to reap a good harvest in this year's agricultural production.

CSO: 4007/434

HEBEI

PROVINCIAL STATE FARM SYSTEM EXPANDS PURVIEW

Beijing NONGMIN RIBAO in Chinese 25 Jul 85 p 2

[Article by Provincial Agricultural Office: "Outstanding Results Achieved in Hebei Provincial State Farm and Land Reclamation System Through 'Introductions from Outside and Linkups Inside'"]

[Text] Throughout the year, all crop and livestock farms directly administered by Hebei Province have broken out of the walled off mode and the self-sufficient economic mould of state-owned crop and livestock farms and have opened wide the doors to "introductions from outside and linkups inside" that have scored runaway advances. During the first half of the year, 35 separate advanced techniques and production items were obtained from elsewhere in China or brought in from outside China, and more than 37 million yuan was brought in from abroad.

Active introduction from abroad of advanced techniques and funds: With support from the Ministry of Foreign Economic Relations and Trade, two automated production lines to maintain the freshness of cow's milk and to package it in soft packs were imported from Finland. This was the first instance in which China made use of low interest loans from a northern European investment bank. Not only are economic benefits from the imported items outstanding, but they are likely to improve the shortage of dairy products in some of the province's cities and rural areas. In addition, purebred fine-wool sheep were imported from Australia; superior quality milk cows were imported from other countries, and cured food processing, petrochemical technology and capital are being imported.

Making the most of resources and wideranging gathering of funds for joint internal and external deals: During the first half of the year, crop and livestock farms throughout the province brought in a total of more than 19 million yuan from elsewhere in China. The Zhongjie, Nandagang and Bogezhuang farms along the seacoast used investment from various departments and enterprises inside China to expand their prawn and tilapia breeding area by 11,000 mu, which is more than three and one-half times last year's size. In addition, it devoted attention to the importation of things that can be used to improve technology in old enterprises and update products. Electronic computer control technology for the production of milk powder, chemical fertilizer, papermaking, and warp knitting is about to be delivered for use.

Entry into the third social and development estate: All farms emphasized export of funds, equipment and technology. Guyuan Livestock Farm used linseed for investment in kind in a joint paint business with Tianjin. Annual profits from seven urban sales outlets in Shanxi, Nei Monggol and Hebei reached more than 300,000 yuan. Funds that Dacaozhuang Farm raised itself were used for Tianjin and Shandong farm product export deals, the farm products coming from 16 counties in Hebei province. Not only was the farm able to make an annual profit of more than 500,000 yuan, but it was also able to find markets for the farflung peasant households and make the most of the role of state-owned farms as a link.

Investment in the aforementioned imported items expanded by more than 20 percent the former production capabilities of the whole province's state farm and land reclamation system.

9432

CS0: 4007/416

HEILONGJIANG

XINHUA REPORTS HEILONGJIANG'S LAND RECLAMATION PROJECT STATUS

OW171750 Beijing XINHUA in English 1635 GMT 17 Aug 85

[Text] Harbin, 17 Aug (XINHUA)--More than one-third of China's land reclamation project in Heilongjiang, northeast China, has been completed with aid from the World Bank, according to the Provincial State Farms Bureau.

The project covers 200,000 hectares of "northern wilderness" on the plain drained by the Heilong, Songhua and Wusuli Rivers.

Starting in June 1983, the project, involving use of 80 million U.S. dollars in World Bank loans, is scheduled for completion in 1986.

As of the end of June, about 24.37 million cubic meters of earth were removed for drainage systems, 114 bridges built, 669 km of roads laid, houses with a total floor space of 93,000 square meters erected and cement threshing grounds surfaced.

About 72,000 tons of grain and beans have been harvested on 100,000 hectares of the reclaimed land over the past two years, averaging 1,057 kg per hectare.

With the expansion of its arable land, local officials said, Heilongjiang is to import 777 tractors, combines, engineering machinery and micro-computers from the United States, the Federal Republic of Germany and Japan.

CSO: 4020/342

HEILONGJIANG

TIMBER SHIPMENT REFORMS DISCUSSED

Beijing ZHONGGUO LINYE [FORESTRY IN CHINA] in Chinese No 1, 17 Jan 85 p 17

[Article by the Policy Research Office of the Yichun Municipal Committee and the Yichun Municipal Forestry Product Sales Corporation: "Major Reforms in Modes of Timber Shipment: Yichun Opens a Second Shipping Line"]

[Text] Ten Yichun forestry bureaus (factories), including the Dafeng factory, have opened up commodity circulation channels to alleviate the strain on railways and reduce backlogs of goods by opening a second lumber transport line. The resulting economic returns have been obvious. This line has shipped timber products and short lumber totaling 22,890 cubic meters to 28 cities and counties. Sales volume reached 5.06 million yuan while the services of 509 railway cars were conserved.

The method used in opening up this second transport line throughout Yichun can be summarized in four aspects:

1. All-party participation in railcar organization and participation by diverse economic elements. First, user units supplied their own cars to ship the timber while forestry enterprises engaged in commerce from their home bases. Second, forestry enterprises procured railcars to send out the goods. Third, cars were hired from outside the transaction to secure shipment.
2. Management was carried out by the lumber section of the forestry bureau and by the forestry product sales corporation. The primary activity of this second transport line was lumber sales. In general, the forestry bureaus (factories) set up highway transport leading groups with lumber sections and the sales corporation leading the way in management. In some cases, special staff in the lumber section and sales corporation handled allocation and shipment of the lumber by road. In others, local shipping organizations were set up with the lumber section and the corporation providing oversight.
3. Wage allocations for shipping help included piecework or hourly allowances. Branches at the Dafeng bureau allotted wages according to the volume of lumber a trucker delivered, with 0.58 yuan for each cubic meter-kilometer from Dafeng to Hegang. Same-day shipment and return was worth 7 yuan. The Red Star bureau provided an allowance of 2 yuan for every cubic meter, over and above the trucker's basic wage.

4. Highway shipment sales were either by direct sales or sales through jointly operated units. Product sales were both wholesale and retail. Most wholesales were large in volume to large and mid-sized enterprises with pressing demands. Retail sales were to small businesses and residents with no resources for using railway shipment but which still needed the lumber. Products supplied to joint operations included both raw materials and pieces of wood products for assembly. A survey of the five bureaus at Dafeng, Meixi, Cuiyi, Wumin He, and Red Star showed that setting up the second transport line had a number of benefits.

1. Reduction in backlogs of timber. The Cuiyi bureau shipped out 2,540 cubic meters of timber by truck in just 2 months, 3.9 percent of total timber shipments between January and August 1984. Meixi shipped out 165 truckloads totaling 1,656 cubic meters. A total of 22,890 cubic meters had been shipped out in the first 8 months of the year throughout the city, which reduced both backlogs and losses and waste, as well as loosening up the tight rail situation.

2. Opening of outlets for idle trucks in the slack season. When the winter timber production season came to a close, some trucks were put away and workers had nothing to do. With a second line of truck transportation as an offshoot of the railways, these trucks and workers were put back into activity. The Dafeng branch station spent 60,000 yuan in the first half of 1983 on 11 idle truck transshipment docks. In the 2 months of May and June of 1984, between shipments of lumber to Hegang and return shipments of coal, not only were these losses recouped, but a profit of 4,000 yuan was realized. The Meixi bureau sent out 193 truckloads of timber in July and August to several counties and cities in nearby parts of the province which netted a profit of over 5,000 yuan.

3. Sales avenues found for slow-selling products. In early 1984, the Shuangfeng and Tieli bureaus came up with little volume at a number of sales meetings. They sent out three sales teams to take orders with little success. The primary reason they could not get the orders was because of transport difficulties. The Nanqi hydrolysis plant utilized trucks to get fiberboard out to the villages and switched from wholesale to retail sales. They shipped 30 truckloads of fiberboard for sales of 62,400 yuan. Meixi's firewood was selling badly. They shipped it on trucks to Hegang; and with technologically supported local lumber manufacture, shipped out 120 cubic meters in August of 1984. The whole shipment sold. Most of the timbers for Hegang's coal mines are of oak shipped from state bureaus in Hebei and Heli, oak which is highly gnarled and inexpensive. Yichun's product is better; however, it has not sold well owing to shipment difficulties. Once truck shipment was inaugurated, we were able to find out that although only 60 percent of such timber can be oak, all of the timber sent from Yichun was utilized. The timbers from Dafeng bureau used at the coal mine at Hegang's Jiusan farm was judged to be the best and most advanced of all.

4. Readjustment for some badly needed products for production and daily living in forestry areas. Not only did opening a second transport line allow

timber to be shipped out; the empty returning trucks could be used to bring in goods and materials in demand for production and daily living in the forest region, giving life to the forest region economy. The Wumin He bureau used timber-shipping trucks from Liaoning to ship back 200,000 jin of rice seedlings which helped to solve problems in developing a diversified feed industry, giving further life to the area's economy. Both the Dafeng and the Meixi bureau utilized the trucks returning from Hegang to haul coal. By the end of August, Dafeng had shipped in 3,000 tons and Meixi 999.

Opening the second transport line also provides raw materials to jointly operated sales outlets, is convenient for movers of goods, and provides for fast shipment.

What became evident in investigating this event was that a well-run second transport line itself requires solutions for some problems. One is simplified transportation procedures. Current procedures from truck transport are complex, with many barriers. Every truck from Meixi to Tieli requires four certificates and six inspection stops. A second is improved market forecasts and open markets. A third is the building and improvement of highways to upgrade transportation capabilities.

12303

CSO: 4007/269

HEILONGJIANG

BRIEFS

FLOOD-CONTROL DAM--Heilongjiang Province has basically completed one of its key water conservancy projects, the (Xidagang) dam, in the No 854 state farm. The province began the dam in early April this year and will basically complete building the dam by the end of 1985. According to the designation, the project comprises a big dam that will be 3,300 meters long and 6.7 meters high and whose flood-discharge capacity will be 140 cubic meters per second. After the construction of the dam, the total area of accumulated water will reach 90,000 mu and the volume of accumulated water will reach more than 90 million cubic meters. It will change the waterlogged situation in the low farmland east of No 854 state farm. The total investment in the project is 5 million yuan. [Summary] [Harbin Heilongjiang Provincial Service in Mandarin 1000 GMT 15 Jul 85 SK]

CSO: 4007/413

HENAN

BRIEFS

HENAN SUMMER GRAIN PURCHASE--Zhengzhou, 3 Aug (XINHUA)--As of 26 July, Henan had purchased according to contracts over 7 billion jin of wheat, which constituted 77 percent of the purchase plan and showed an increase by 1 billion jin over the corresponding period last year. [Summary] [Beijing XINHUA Domestic Service in Chinese 0009 GMT 3 Aug 85 OW]

CSO: 4007/432

HUBEI

MEETING HELD ON COMBATING NATURAL CALAMITIES

HK251602 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 23 Jul 85

[Excerpts] The provincial government has recently held a special meeting on combating drought, and has issued a circular urging the province to continue to grasp well the present work of fighting against drought in order to reap an overall bumper agricultural harvest this year.

Most of the province's areas are facing drought. Lately, there have been occasional rains in the province, and hence the drought situation in some localities has been relieved. But according to the meteorological departments, weather forecasts, from late July to early or mid-August, the province will still be persistently affected by hot and dry weather. Therefore, there is still the possibility that the drought situation will further deteriorate, and such natural calamities as flooding and waterlogging may take place at any time. Since July, August and September are the key period for agricultural production, as well as the time at which calamities frequently occur, we must under no circumstances treat the work of fighting against natural calamities lightly. For this reason, the provincial government urged:

First, we must further establish the awareness of fighting against natural calamities in order to strive for a bumper harvest. At present, we must seriously do well in the work of combating drought. We have many favorable conditions for fighting against drought, such as abundant supply of water, well-equipped machinery, and experienced cadres and masses. However, the problem is that because there has been no large-scale drought in the province over the years, the province is not well prepared in terms of relief materials and the mentality of fighting against drought. Some people have slackened their vigilance. Some machinery is poorly maintained and some irrigation channels are blocked. Therefore, leadership at all levels must attach great importance to this. They must overcome their slack thinking and uphold the work of fighting against drought in order to strive for bumper harvest.

Second, we must do well in rationally controlling the use of water. At present, the amount of water stored in the province's large and medium-sized reservoirs is quite large. Most of the wide rivers can be used for irrigating farmland. But the problem is that we must utilize the water in a centralized and rational way. We must implement the work in the fields one

by one. We must break the barriers of different administrative divisions. Provided that there is a source of water supply, we must irrigate the fields of the irrigated area. We must keep the irrigation channels clear and do well in maintaining the machinery.

Third, we must conscientiously organize the supply of fuel, electricity, and capital for combating drought. We must give priority to the work of fighting against drought when supplying power to the localities. We must strive to pump more water to the fields at night [words indistinct], and ensure the supply of fuel for fighting against drought.

Fourth, while fighting against drought, we must also be prepared to fight other natural calamities such as flooding. We have already entered into the flood season. Therefore, under no circumstances must we treat lightly the work of flood control. Summing up our past experience, we must formulate an overall planning for fighting against drought and preparing flood control.

Fifth, we must continue to strengthen our leadership over the work of fighting against drought. As it is also the time when the prefectures, counties, and cities are carrying out party rectification, we must uphold the practice of making the party rectification promote the economy, and use the economic results to examine the results of party rectification.

CSO: 4007/413

HUBEI

HUBEI MEETING CALLS FOR FIGHTING DROUGHT

HK110543 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 10 Aug 85

[Excerpt] The provincial CPC committee and government held a special meeting yesterday afternoon to look into the fight against drought. The meeting called on the province to hurry to concentrate forces, launch shock attacks against the drought, and win complete victory. Huang Zhizhen, Qian Yunlu, Tian Ying, Guo Zhenqian, Wang Hanzhang, and Wang Libin attended the meeting.

Most parts of the province have had drought with little rain since mid-June. In the past 10 days there has been continuous fierce sun, hot winds, and high temperatures, and the drought has continued to develop. Some 18 million mu of crops are now affected by drought. The meteorological departments predict that the hot, dry weather will continue for the next 10 days or so, and the drought will continue to develop. The provincial CPC committee and government have therefore made the following demands:

1. Continue to implement the provincial government's 24 July instructions on grasping antidrought work and ensuring a bumper harvest over the whole year.
2. Solve the problems of materials and capital needed for fighting drought.
3. Cadres at all levels must continue to go down to the grassroots and help to solve conflicts between the upper and lower reaches of streams, between different units, and so on, and strive for complete victory in the struggle.

CSO: 4007/432

JIANGSU

COTTON PRODUCTION SHIFTED IN NORTHERN COASTAL AREA

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL TECHNOLOGY] in Chinese No 4, Apr 85 pp 23-27

[Article by Zhou Baoyun [0719 1405 0061] and Mei Deyin [2734 1795 6892] of the Yancheng City CPC Party School: "Exploring Readjustment of Production Makeup in Northern Jiangsu's Coastal Cotton Regions"]

[Text] I. Current Situation and Features of Production Makeup

Northern Jiangsu's coastal cotton-growing region is a rather recently formed coastal plain, encompassing all the communes of Sheyang County, most of those in Dongtai and Dafeng counties, and a segment of those in Hai'an, Jianhu, Funing, and Binhai counties as well as in the suburbs of the city of Yancheng. Totaling 8,351.69 square km in area, the region occupies 8.14 percent of the province's total area. The total tilled area is 5.54 million mu, which is 7.88 percent of the provincial total. The total population of 3,697,800 constitutes 6.12 percent of the province's population. Of this figure, the total farm population is 3,049,200 with farm workers amounting to 1,342,000. Arable land is 1.81 mu per capita or 4.14 mu per farm worker, much higher than the average for the whole province.

Cotton is the agricultural mainstay of the coastal region, and has been the only significant component in the structure of production for many years. With the gradual readjustment of that structure in recent years, farming, sidelines, and industry have been integrated in operation. This has resulted in initial improvements in the one-sided nature of operations and irrational makeup of production endemic to the region. But there are still a few problems--cited below--which remain. First, from the standpoint of farming itself, the cotton proportion is excessively large, while proportions for other cash crops are too low. Estimates are that 59.4 percent of tilled land in the eastern coastal region of the province has been planted in cotton since 1982, with actual figures running as high as 70 percent or more. The disproportion is especially severe in the band stretching from Hede and Dazhong in central and southern Sheyang County through central and eastern Dafeng and Dongtai counties, where the figure hovers around 80 percent. Dongtai County's push to be a "million dan of ginned cotton county," for which 540,000 mu of land were earmarked, expanded to a million mu. Moreover, more than 300,000 mu of the additional land consisted of rice paddies, and the

remaining several tens of thousands of mu were taken from such cash crops as mulberry, peppermint and hemp. Thus, the disproportionately large area planted in cotton came to supplant areas devoted to other cash crops, eventually leading to a loss of balance within the farming establishment. Second, looking at farming in the larger context of the overall structure of agriculture, forestry, grazing and fisheries, the cotton disproportion goes along with shortfalls in these other areas. With the initial readjustments of recent years, these shortfalls in forestry, grazing and fisheries have been conspicuously alleviated; but there has been no overall or fundamental change in the situation. Looking at gross income from farming, forestry, animal husbandry, sidelines and fisheries, total income reached 762 million yuan, of which planting amounted to 619 million yuan, or 81.2 percent. Total income from forestry, animal husbandry, sidelines and fisheries was only 142 million yuan, or 18.6 percent. Third, looking at the rural economy as a whole, the disproportion for farming accompanied a shortfall for rural township and tertiary industries. The region's rural township industry is still in its embryonic stages and has a comparatively weak base. The 1983 gross output value for rural township industries in the region was around 290 million yuan, a mere 27.4 percent of the gross output value for farming, byproducts and industry combined and lower than the average for the province as a whole. Tertiary industry was even weaker, amounting to only 15 percent of the region's gross output value for society as a whole. This was also below provincial averages.

II. Readjustment Conditions and Constraining Factors

A. The Three Favorable Conditions

1. The abundance of agricultural resources provides assurances for readjustment in the makeup of rural production. Here, there are at least four strengths. (1) Land resource advantages: The region has almost 2 mu per capita and the highest amount of arable land resources in the province. The reclamation index is only 41.2 percent. Over and above the 1.25 million mu of yet to be cultivated but already diked wilderness in large tracts, there are numbers of scattered plots and slopes in and around the fields totaling more than 200,000 mu. Additionally, the region is one of the province's and the nation's major shore wetlands areas, accounting for one-fifth of the nation's total such areas. There are over 1.1 million mu covered at high tide which could be enclosed, along with over 4.3 million mu of tidal barrier beaches including the sand shoals and outer shoals radiating out from Jinggang, which have a number of exploitable uses. (2) Water resource advantages: The network of canals and ditches and open water areas along the coast is extensive, creating favorable conditions for fisheries. There is also the ecological advantage of a vast continental shelf covering 50 to 60 million mu, with an extensive fauna and abundant aquatic product resources. The future for littoral cultivation and ocean fishing is promising. (3) The advantages of farm and sideline product resources: This region produces 2.5 to 3 million dan of ginned cotton a year, which is more than one-fifth that for the province as a whole. Yearly hog production exceeds 3 million head while silkworm cocoon production is around 200,000 dan. Aquatic products and poultry are also extremely plentiful and conditions are

excellent for building up farm and sideline product processing and the food industry. (4) Neighboring port advantages: The region is bordered by Nantong harbor in the south and Lianyungang harbor in the north. These have already been opened up to the outside, and will have a positive impact on development of rural economic production.

2. Food problems have been basically resolved and there is now a farm labor surplus. With the focus of production being on cotton planting alone in northern Jiangsu's coastal region, food production has developed slowly. Many areas resorted to outside purchases of grain for a long time. Consequently, the change from one-crop production was a long time in coming. Grain relationships have been rather correctly handled in recent years, resulting in something of a speedup in development of grain production. As a whole, the region now has self-sufficiency in grain, which provides conditions favorable to readjustments in the makeup of production. At the same time, as the household responsibility system has spread, the enthusiasm of farmers has been spurred and there is a surplus of rural labor force. This provides favorable labor conditions for developing production in other areas.

3. There have appeared a number of advanced models for self-conscious readjustment of the cotton region's production makeup. This provides experience for readjustments on a broader scale down the road. Readjustments in the region's Hai'an County were started early and proceeded rapidly. The county chose the feed industry as the linchpin in its restructuring and revitalization of the rural economy. Development of diversified operations was made the central link in the development of commodity production. Feed industries, eugenics, disease prevention, spread of new technology, and farm product processing were set up as five major systems. The six mainstays were feed, marsh gas, earthworms, processing, refrigeration, and transport and sale. This brings about a favorable food cycle, spurs the unification of farming and animal husbandry, brings about an initial exploration into the comprehensive development of farming, forestry, animal husbandry, sidelines and fisheries along with comprehensive management of farming, sidelines, industry, commerce and transport, which grow to be mutually dependent and promote mutual development. As a result, industry and agriculture form into an organic whole. Dongtai's Sancang Township gradually integrated farming, sidelines, industry, commerce, and construction under comprehensive management through a gradual process of restructuring production, with intensive cotton processing as the main feature. This integration took place along four lines. First was the integration of planting, picking, spinning, weaving, and apparel manufacture. Second, in silk, was the integration of mulberry-leaf picking, feeding and warming the silkworms, unwrapping the cocoons, clothmaking, and printing and dyeing. Third was integration of the food product industry for domestic animals and poultry from birthing through processing. Fourth was the integration of brickmaking, manufacture of concrete products, and construction of commodity buildings. It is especially with the rapid appearance of "specialized households" and "family-yuan households" in recent years and of people with talent for manufacturing production that there is now a wealth of experience for others.

B. Constraining Factors

1. Funds are in short supply. Readjusting the makeup of production and development of rural townships requires money. Because the area had had one-crop operations for a long period, the speed at which rural areas become affluent is rather slow. Accumulation from farming is minimal. The desire to develop large-scale production is there but the ability is not.
2. Energy supplies are inadequate. This region has no coal resources. The energy shortage is considerable, exceeding 1 million tons of coal annually. Electricity is even more scarce, and in some township factories where electric power is inadequate, production has gone from three shifts to one. Current statistics show nearly 30 percent of the countryside still without electrification.
3. Transportation conditions are deficient. The reason industry in the coastal cotton-producing region has been so slow is brought about in part by transportation barriers. There are no large ports or any railroads. There is only the Tongyu Highway running north to south, but it is of poor quality. There are several waterways, but there are numerous locks and travel is slow. After the winter freeze, waterway travel is impossible. This puts a constraint on economic relations between this region and others.
4. There is a lack of S&T talent. Because of the lack of development of the region's education and culture, there are few midlevel or advanced S&T personnel. The situation is even worse in rural township industry. Of the more than 50,000 workers in Dengtai's township industries, there are only 14 S&T personnel--less than 3 per 1,000. Enterprises in most townships lack a single formally trained S&T worker, and improving product quality is concomitantly difficult.
5. The management system is unsuitable. This is most egregious in the lack of services to the people in certain sectors of government, the lack of an attitude of service toward developing rural commodity production, bureaucratism, and a serious yamen mentality. Competition between concerned urban departments and the people over advantages is quite egregious.

III. Readjustment Directions and Strategies

Given the current features and characteristics of production makeup in the cotton-producing regions of northern Jiangsu, and basing ourselves on the principles of maximizing strong points and minimizing weak ones, we feel that the direction to be followed in restructuring the region's production should be as follows: We should gradually establish a new type of production structure through readjustment and reform. Farming should be its foundation and livestock breeding its gears. It should be supported by rural township enterprise. It should have a network of tertiary industries. And it should have coordinated development of agriculture, animal husbandry, forestry, sidelines, fisheries, industry, commerce, construction, transportation and services. Concrete strategies for holding to the course laid out above should be to upgrade base industry, develop traditional industry, strengthen support industries and open up tertiary ones.

A. Upgrade base industries--planting and farming.

For this region of Jiangsu, average grain production cannot fall below 1,000 jin per capita. In this way, other industries can develop rapidly. For this reason there should be no abrupt cutoff in farming. Rather there should be internal adjustments, along with an emphasis on improvements. We feel that if the region's farming is to have a reasonable internal makeup, the area sown in grain must be stabilized at around 3.5 million mu in an average year to maintain the 1,000-jin-per-person standard. In addition to stabilizing the area planted, efforts must be expended to increase unit output, quality and returns. "New and improved" strains of grain crops should be vigorously developed. High-quality rice, wheat, green manure and feed crops should be augmented. The nation's cotton crop has now outstripped market demand and cotton from northern Jiangsu is becoming difficult to sell. Supplies are seriously taxing storage facilities. In Dongtai County alone last year, the warehouses were glutted with over 400,000 dan of cotton worth more than 70 million yuan, engendering serious economic losses. Moreover, cotton cropping is labor intensive and high in costs. One mu of mulberry for silkworms can generally engender a profit of over 200 yuan. The best earn between 300 and 400 yuan. Taking into account all factors, this region's cotton area has shrunk about 30 percent in recent years--down to about 2 million mu from over 2.8 million in 1984. Once the cotton area is reduced, some 600,000 mu can be shifted to silkworm mulberry, peppermint, yellow hemp and ramie. Of this figure, 400,000 mu should be mulberry, 100,000 of peppermint and medicinal herbs, and 100,000 for yellow hemp and ramie. Another 200,000 mu should be earmarked for such minor crops as soybeans, red beans, peanuts and sesame. Of this 100,000 mu should be for soybeans, 50,000 for red beans, and 50,000 for peanuts and sesame. These are all effective strategies for improving the base industry and spurring the transformation to specialization, commercialization and modernization in the farm economy.

B. Develop traditional industries--forestry, animal husbandry, and fisheries.

These three industries are weak spots in the region. In restructuring the makeup of production, we should fully utilize local resources and vigorously develop breeding--especially for domestic animals and poultry. Farming and animal husbandry have been joined in the region's Hai'an County for several years. At the same time as expansion of grain is being stabilized, hog production should be developed in a stable fashion, and production of domestic fowl, sheep and rabbits should be fostered. Meat product output has doubled in the past 5 years. Output per capita in 1983 was 120 jin of meat, poultry, and eggs. Over 700,000 fattened hogs went to market, along with more than 2.7 million fowl and 20.83 million jin of eggs. As the livestock industry develops, more and more grain can be transformed into meat and eggs. In 1983 alone, over 430 million jin of grain went to domestic animal feed, amounting to half the region's yield. Not only has there been little difficulty for those selling grain; on the contrary, over 100 million jin of grain was brought in from outside. Developments in livestock will gradually lead to a more rational farm structure and a proliferation of grain. The 1983 per capita income figure of 340 yuan was a 1.24-fold increase over 1978. The total output value for the county's livestock industry went from 19.4 percent

of gross agricultural output value to 30.4 percent, and pure income per capita from livestock exceeded 100 yuan.

Hai'an's experience demonstrated that development of domestic animal breeding can fully serve as the linchpin for this region's development and spur the readjustment of the region's production structure as a whole. Mainstays in the domestic animal industry should be chickens, ducks and hogs. Requisite attention should be paid to sheep and rabbits, and the region's wetland resources should be fully utilized to raise dairy cattle. Based on the region's conditions and our estimates, the following goals can be realized in the next 3 or 4 years: 80 million poultry fed on an annual basis throughout the region (averaging 22 per capita), sales of 110 million jin of eggs (30 jin per capita), 4 million hogs sent to slaughter (1.1 per capita). When these goals have been reached, total output of meat, poultry and eggs for the region should hit some 170 jin per capita, for a per capita profit of around 150 yuan. The ratio of gross output value from livestock to gross agricultural output value as a whole should go up from 15 percent to around 30 percent, and absolute output should go up by around twofold. While the livestock industry is being developed, freshwater fish-breeding should also be vigorously developed to increase per-unit yields. New fish ponds should be dug where appropriate, devoted specifically to raising fish. Wetlands should also be utilized to develop seaside pisciculture and strengthen basic construction for the ocean fishing industry. The region's forestry industry is developing slowly. The groundcover rate is a mere 5.7 percent. In order to improve the ecology of the region's agricultural environment, its abundant land resources can be utilized, along with the favorable conditions provided by coastal wetlands, to develop forestry production which centers on field windbreaks and an interlacing of forests and fields. Moreover, some 200,000 to 300,000 mu of wetlands above high water can be appropriated for enclosure and afforestation for use as lumber and economic timber. Efforts should be made to raise the groundcover rate to around 15 percent within the next 4 or 5 years.

C. A sound supporting industry--rural township industry: Jiangsu's situation compared to the rest of the nation is rather good. Rural township enterprise output value already amounted to 45 percent of gross agricultural output value in 1983. However, in the region under discussion here, the figure was only 27.4 percent. The weakness of rural township industry is a major factor in the slow rate of wealth accumulation in the region. "No stability without farming; no wealth without industry." The transformation from an agricultural to an industrial society has been a tremendous historical advance. The proportion of population engaged in farming in some developed nations has fallen from 20 percent to less than 10 percent. In China, the proportion of industrial output value among the three sectors of industry, sidelines and farming has surpassed the others to stand above 50 percent. This is an inevitable trend. For this reason, rural township industry in northern Jiangsu's cotton-producing regions is developing extensively. Efforts should be made to increase the proportion of industrial output value to above 40 percent. With regard to shortages of funds and energy at the moment, those enterprises such as foodstuffs and feed which require little investment and waste little energy should be developed first.

Special attention should be paid to developing the region's strong points in cotton resources and intensively processed cotton products, so as to comprehensively utilize industries involving the region's main product and by-products. In the past, the emphasis was on sales of primary grade raw materials, with a return to the farmer which was minimal. Now, the utilization rate for farm and sideline products should be improved, with intensive processing not just in the "food chain," but in a "manufacturing chain" as well, so that increases in value occur at a number of stages. If the crude, rudimentary processing now done on the region's 3 million dan of ginned cotton products and byproducts could be switched to refined advanced processing and if rudimentary utilization could be switched to multiple utilization, the annual output value could be increased by more than 1 billion yuan. Nevertheless, comprehensive utilization of cotton products has still attracted little attention. We feel that within the next few years, this region should achieve breakthroughs in the following four areas in order to bring about an upswing in its rural township industries:

First, there must be a breakthrough in intensive processing of cotton products. Between 20 and 30 clothing manufacturing factories can be added to those now in operation in the region, along with 20 to 25 pile-shearing factories, 25 to 30 factories for manmade fibers using short-pile cotton as raw material, 10 to 15 factories using a cotton-oil slurry to make compound fatty acids, and 60 to 70 plants for using cotton stalks as raw material to make fiber board and particle board. These factories can be integrated, engage in diverse joint operations, and lead to integrated processing of cotton products.

Second is a breakthrough in food processing. Since the region's poultry and fish resources are quite plentiful, 50 to 60 poultry and fish canneries can be set up, along with 15 to 20 refrigeration facilities, in order to take advantage of the region's special features in food processing.

Third is a breakthrough in the feed industry. If grain transformation is to be facilitated and the livestock industry is to be spurred, a full-scale feed industry must be built. To do so, the current monopoly of county and state-run factories must be broken. Each township should have its own feed manufacture of a scale of between 3,000 and 5,000 tons per annum. In addition, each village may have its own smaller scale feed factory.

Fourth is a breakthrough in the exploitation of imports. The emphasis in existing rural township enterprises should be on technological transformation and vigorous development of new products and projects. Dongtai County has plans for 349 new projects and 119 new products in 1985, which are projected to increase earnings by 65 million yuan. There should also be an opening up to domestic and foreign markets and utilization of the favorable position of the harbors at Nantong and Lianyungang in this regard. They can be built into windows for the importation of new technology, new projects and new facilities in order to strengthen the competitive capabilities of the products of rural township enterprises.

D. Open up tertiary sectors, such as commerce, construction, transportation, and services: These sectors are now quite weak in this region, and although there has been some development in recent years, it is still inadequate to meet the demands of rural economic development. Although the land-to-population ratio is relatively large, implementation of the contract responsibility system has led to a considerable surplus of rural labor forces--currently about 300,000 workers. There are numerous tertiary industries--especially commerce, food and beverage, construction, and services--which are labor-intensive, require small investment, are quick to show returns and can accommodate this labor surplus. Tertiary industries should be opened up in the immediate future, both to create employment opportunities for this surplus labor and to satisfy the demands of rural economic development and the people's daily life in a number of areas.

We feel that the guiding principle of developing tertiary industries must be the common benefit to the state, the collective and the individual. In the short term, this region of Jiangsu should adopt the following four measures:

1. Expand commodity circulation and increase commodity outlets. Since the present network of commodity outlets is inadequate, there are salient buying and selling difficulties. In the next few years, 200 to 300 such outlets can be added to the current base, which should enhance commodity circulation.
2. Develop the construction industry and expand the movement of labor service. The region's current construction force numbers over 45,000, of whom 15,000 are in projects in other provinces and municipalities. This construction force can be increased to between 100,000 and 150,000 in the next few years. The movement of labor can be stepped up in construction as well.
3. Develop transport in collectives and among the people. At the present time, the number of specialized transportation households has passed 11,000. The transportation industry should continue to be developed to alleviate the region's backwardness in this area. Collective units and specialized households engaging in transport should be vigorously encouraged, with a one- to two-fold increase in their numbers in the next few years.
4. All types of service industries should be set up. As the economy develops and the popular standard of living rises, this region should establish a broad variety of diverse and responsive production and livelihood service systems. People should be encouraged to move to urban areas to engage in industry, commerce, restaurant, hotel and repair services. This will accelerate the pace of construction of small towns, further strengthen rural-urban economic relations, and bring vigor to the rural and urban economy.

The four areas mentioned above differ in status. They are interrelated and mutually constrain one another as they become conjoined into a new structure of production. Improvements in farming provide the solid base needed for all rural industries. Vigorous development of animal breeding and the impetus of this device can not only aid in the work of grain transformation and provide the nation with a bountiful supply of food products; it can also

motivate many specialized grain and cotton households and stimulate the development of rural township industries--especially the food-processing industry. It can breathe life into all kinds of service industries and create a favorable cycle in the agricultural economy. Strong rural township enterprises can accelerate the accumulation of money and technology, improve the agricultural labor production rate, spur the construction of small towns, and spur the development of commodity production as a whole. Development of tertiary industries can help to bring all sectors into closer relationship, open up channels for commodity circulation within agriculture, between agriculture and industry, and between town and countryside. It can lead to the formation of new economic networks, bring about a favorable cycle between the major agricultural, sideline, industrial, and commercial systems, upgrade economic return, and invigorate the entire rural economy.

12303

CSO: 4007/360

JIANGSU

BRIEFS

JIANGSU SUMMER GRAIN--Nanjing, 9 Aug (XINHUA)--As of 5 August, more than 5.8 billion jin of wheat had been purchased in Jiangsu Province in accordance with contracts. Wheat purchased over and above contractual requirements totaled 365 million jin. In addition, 394 million jin of barley had been procured, bringing the total amount of summer grain purchased to 6.6 billion jin, overfulfilling the province's plan for contractual summer grain procurement. In addition, rapeseed purchased by the province amounted to 671 million jin, over 70 percent more than the total amount purchased last year. [Excerpts] [Beijing XINHUA Domestic Service in Chinese 0921 GMT 9 Aug 85 OW]

JIANGSU FISH PRODUCTION--Nanjing, 13 Aug (XINHUA)--Taking price controls off aquatic products has boosted fish production in Jiangsu Province, according to the Provincial Aquatic Department. Fish and seafood production came to 245,000 tons in Jiangsu in the first half of 1985. This was a 10 percent increase over the same period of 1984. Price and purchasing controls on aquatic products were lifted early this year. As of the end of May, about 16,000 hectares of fish ponds had been expanded and 21,300 hectares of new ponds built, a record for the province. Now Jiangsu has 330,600 hectares of ponds used to breed fish and other aquatic products, 37,800 hectares more than last year. [Text] [Beijing XINHUA in English 1218 GMT 13 Aug 85 OW]

CSO: 4020/342

JIANGXI

BRIEFS

JIANGXI USES AERIAL SOWING--Jiangxi has achieved satisfactory results in afforestation by aerial sowing. During the 20 years since 1965, aerial sowing has covered 6.28 million mu of land in 30 counties in Ganzhou, Jian, Fuzhou and Shangrao Prefectures and Jiujiang City. The total area of effective sowing was 5.11 million mu and the total area of preserved forests was 2,897,000 mu, accounting for 56 percent of the effective sowing area. The ratio of preservation was higher than that of manual afforestation. The total area of aerial sowing in Ganzhou Prefecture was 833,000 mu this year, accounting for 48 percent of the total area of aerial sowing in this province. [Excerpts] [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 19 Aug 85 OW]

CSO: 4007/434

JILIN

BRIEFS

JILIN ANIMAL HUSBANDRY--Compared with the same period of 1984, Jilin Province registered a 27.7-percent increase in the number of hogs, a 12.8-percent increase in that of draught animals, and a 93.8-percent increase in that of poultry by the end of June. Of the draught animals, the number of oxen increased by 22 percent, and that of goats by 6.1 percent. [Summary]
[Changchun Jilin Provincial Service in Mandarin 2200 GMT 16 Aug 85 SK]

CSO: 4007/433

LIAONING

LIAONING'S LIAO HE GRAND EMBANKMENT ENDANGERED BY FLOODING

SK140535 Shenyang Liaoning Provincial Service in Mandarin 1030 GMT 13 Aug 85

[Excerpts] The Liao He Grand Embankment has encountered danger on many occasions, and cities and counties along the Liao He have spared no effort to deal with emergencies. The provincial flood prevention headquarters has issued an order, calling on all cities and counties along the Liao He to give up defending the small and subsidiary dikes in order to expand the flood discharge capacity and ensure the safety of the Liao He Grand Embankment.

At present the Liao He flood crest has arrived at the Juliu He hydrometric station in Xinmin County, and is flowing towards the sea slowly. The current Liao He flood crest is characterized by a slow current velocity, high water level, and long duration. In Tieling, Faku, Xinchengzi, Xinmin and Liaodong Counties and Districts, all the small dikes have been breached and part of the subsidiary dikes covered by the plans have been destroyed. Because the embankment has been immersed for a long period of time, many sectors are in danger.

According to the forecast, the Liao He flood crest will enter Taian and Panshan Counties around 15 August, and the maximum flow rate will be about 1,400 to 1,500 cubic meters per second. The provincial flood prevention headquarters has issued an order, calling on cities and counties along the Liao He to give up defending the small and subsidiary dikes in order to ensure the safety of the Liao He Grand Embankment.

CSO: 4007/434

NEI MONGGOL

XINHUA REPORTS ON AFFORESTATION RESULTS

OW051108 Beijing XINHUA in English 1032 GMT 5 Aug 85

[Text] Hohhot, 5 Aug (XINHUA)--Afforestation over the past three decades has brought under control one-fifth of the deserts in Inner Mongolia, regional authorities announced here today.

Located in the arid area of North China, Inner Mongolia has 213,000 sq km of deserts.

A campaign to plant trees and grass has been going on ever since the founding of the People's Republic of China in 1949. As a result, more than 1.7 million hectares of sandy wasteland are covered with trees, and 1.07 million hectares, with grass. Altogether 4.6 million hectares in the region have been brought under control.

Tree coverage in ten banners (equivalent to counties) has been raised from six percent to 12 percent through seven years of effort.

State-run tree farms and sand control stations in the 16,000-sq km Hobi Desert have planted 190-km tree belts on the northern edge of the desert, thus helping turn 20,000 hectares of sandy waste into farm land, pasture and forest zones.

About one-third of the farmland in Ejina Horo banner in the Mu Us desert, where the tomb of Genghis Khan, the Mongol conqueror whose empire once stretched from China to Europe, is located, used to be a sandy waste. But trees have been planted on 13,000 hectares a year over the past eight years since the local authorities came to recognize the problem. About 80 percent of the sandy wasteland is now covered with vegetation, and the other 20 percent is forested.

Afforestation has helped develop animal husbandry and crop growing, and solve the timber shortage and firewood problem here.

More than 180,000 hectares of sandy area in Dengkou County is covered with green bushes.

CSO: 4020/320

NEI MONGGOL

AGRICULTURAL, ANIMAL HUSBANDRY MANAGEMENT MEETING HELD

SK230605 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 22 Aug 85

[Text] In a speech given at the recent regional meeting on the operation and management of agriculture, animal husbandry, and fisheries, Batubagen, deputy secretary of the regional CPC Committee, said: The party and government leaders at all levels and cadres of all trades and professions should pay attention to the operation and management of agriculture, animal husbandry, and fisheries.

In his speech, Comrade Batubagen touched, in particular, on the status of the operational and management work and the role they played in developing commodity production and in expediting the rural and pastoral economy to enable it to develop further and become more modernized, as well as on the importance and necessity of improving the operational and management system and strengthening operational and management services.

He said: At present, the regional rural and pastoral areas are carrying out the second stage of reform, whose main tasks are to readjust the product structure, to vigorously develop the commodity economy, to enable the broad masses of peasants and herdsmen to become prosperous within a short period of time, and to lay a solid foundation for making the whole national economy prosperous. In the second stage of reform, the economy of the rural and pastoral areas is still far from meeting the demands of the four modernizations because the peasants and herdsmen are inexperienced in carrying out commodity production. After the implementation of the policy on direct circulation of agricultural and animal products through various channels and on market purchases, we would certainly encounter many new situations and problems. Therefore, the party and government leaders at all levels and cadres of all trades and professions should pay attention to the operational and management work of agriculture, animal husbandry, and fisheries. All administrative and business departments of the agricultural enterprises should play a vanguard role in this regard.

Comrade Batubagen said: With the prosperous development of commodity production, the broad masses of peasants and herdsmen have set higher demands on operation and management. They called for the establishment of certain service organizations to provide knowledge, technology and facilities, information, and consulting services. Therefore, along with the enhancement in the

level of specialization, commercialization, and modernization of agriculture and animal husbandry, the status and role of the operational and management work will become more and more obvious. The operational and management departments should shoulder the tasks of coordinating the interests between the individuals and the state and between the part and the whole. Judging from the current situation, which departments can undertake such tasks besides these two? All in all, operational and management work is indispensable.

CSO: 4007/434

NEI MONGGOL

REGIONAL PASTORAL AREA WORK CONFERENCE OPENS

SK090407 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 8 Aug 85

[Excerpts] The regional pastoral area work conference opened in Hohhot today. The main topics for discussion at the conference are to examine and sum up the situation in implementing the guidelines of last year's pastoral area work conference, to further understand the great significance of implementing the contract systems in planting grass and breeding livestock by integrating theory with practice, to study some strategic issues of developing future pastoral work and establishing ties with other localities, and to define some specific policies for pastoral work.

Bu He, deputy secretary of the regional CPC committee and chairman of the regional government, delivered a speech at the conference. His speech was divided into three parts: On the situation of pastoral areas; on several strategic issues of developing pastoral economy and speeding up the construction of pastoral areas; on several strategic issues of developing pastoral economy and speeding up the construction of pastoral areas such as, further improving and developing the contract responsibility systems in planting grass and breeding livestock and grasping such work as a strategic foundation for developing the grassland and animal husbandry, combining the rural areas with pastoral areas, displaying their advantages and grasping this work as a strategic issue of comprehensively implementing the principle of taking forestry and animal husbandry as the major tasks while diversifying the economy, developing small towns in pastoral areas and considering this work as a strategic breakthrough in readjusting the industrial structure in the pastoral areas, and developing intellectual resources and considering it as a strategic emphasis in developing the socialist new pastoral areas; and on strengthening and improving leadership in the pastoral areas.

Leading comrades of the regional party and government, including Batubagen, Tian Congming, Shi Guanghua, Wu En, Lu Lingren, Zhou Rongchang, Ma Zhenduo, Wen Jing, Bai Junqing, and Zhao Zhihong, attended the conference. Comrades of relevant state departments were also invited to the conference.

Bu He, chairman of the regional government, pointed out in his speech that since last year's pastoral work conference, breakthroughs have been made in the development of the regional pastoral work and many gratifying changes have emerged.

Comrade Bu He said: Such changes can be mainly summarized into three aspects:

1. The development of grassland and animal husbandry has begun to enter a new stage of harmoniously uniting manpower with grassland and livestock. After the 3d Plenary Session of the 11th CPC Central Committee, our region has first implemented the responsibility systems in contracting out and in selling livestock to herders. After that, we have implemented the responsibility system in working out unified plans and contracting out grassland to the people, enabling the broad masses of peasants to integrate responsibilities, rights, and profits in operating the grasslands and breeding livestock. Over the past year, all localities have vigorously implemented the contract responsibility systems in grasslands and livestock breeding. At present, about 95 percent of the livestock of the collectives have been sold to households at reasonable prices. Nearly 800 million mu of the region's 1 billion mu of grasslands available have been owned or utilized by the people.

2. A new trend of integrating production with operation has emerged in the pastoral economy. After allowing the people to keep and raise private livestock, the broad masses of herders have cared more about their economic benefits. Marked changes have emerged in the production and operation of the pastoral areas.

3. In building the pastoral areas, we have begun to embark on a new path of establishing cooperation between the urban and rural areas and establishing internal cooperation while importing technology and funds. According to statistics, since 1984, pastoral areas have brought in 80 construction projects and 36 million yuan in funds.

Comrade Bu He said: All in all, the situation is gratifying. We reaped a fairly good harvest in the region's animal husbandry production. Under the situation in which the rate of large and small animals slaughtered reached 23.5 percent, the total number of large and small animals reached 38.36 million by the end of June, an increase of 414,000 head over the corresponding period of last year.

CSO: 4007/413

NEI MONGGOL

NEI MONGGOL PASTORAL WORK CONFERENCE CONCLUDES 15 AUGUST

SK160737 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 15 Aug 85

[Excerpts] The regional pastoral work conference set forth the major tasks and measures for future reform and construction of pastoral areas after summing up new experiences, and achieved its desired purpose. It successfully concluded on 15 August.

Regional party and government leading comrades attending the conference included Bu He, Batubagen, Tian Congming, Wu En, Li Xiangyi, Bai Junqing, and Zhao Zhihong. Leading comrades of relevant state departments also attended.

Bai Junqing, vice chairman of the autonomous region, gave a speech to summarize the conference. He said: This conference will tremendously promote the reforms in the various fields in pastoral areas and have a far-reaching historical significance in the construction of pastoral areas and in animal husbandry development of the region.

After giving a brief account of the major achievements of this conference, Comrade Bai Junqing spoke emphatically on a few tasks which should be fulfilled at present. He stressed: First of all, we should further implement and improve the animal and grassland contract responsibility system. He said: Localities where grasslands have been contracted out to herdsmen should further consolidate and upgrade the contract system and put more efforts to improve it. Areas where grasslands have not been contracted out should step up efforts to enforce the contract system as soon as possible.

Comrade Bai Junqing also urged all localities to proceed from reality in restructuring the production of pastoral areas. He pointed out: The emphasis should be placed on grassland construction and readjusting animal patterns. We should put [words indistinct] and the solution to the contradiction between animals and grass supply above everything else and regard them as basic work. The central key lies in raising the percentage of basic female animals. In addition, we should develop forage grass and feed processing industry as quickly as possible. We should arouse the initiative of all quarters and establish, as soon as possible, a forage grass and feed processing network of multiple structures, forms, and economic sectors with small-scale, scattered units engaged in rough processing and run by the masses as the major part. Relevant scientific research units and colleges

and universities should also consider research in this field an important applied science and make continuous efforts to achieve greater results.

In conclusion, Comrade Bai Junqing urged leading persons at various levels to work in unison in the future with greater enthusiasm, a higher spirit, and conscientious concrete deeds, turn the spirit of this conference into acts as quickly as possible, and make greater contributions to further making the economy of pastoral areas flourish and to creating a more encouraging situation in the animal husbandry of the region.

CSO: 4007/434

NEI MONGGOL

NEI MONGGOL TAKES STEPS TO IMPROVE GRASSLANDS

OW200848 Beijing XINHUA in English 0657 GMT 20 Aug 85

[Text] Hohhot, 20 Aug (XINHUA)--China is taking in hand the problem of improving grasslands in Xilin Gol, a large livestock breeding center, covering 140,000 square kilometers.

A reserve of more than 10,000 square kilometers has been closed off in the Xilian Gol League of the Inner Mongolian Autonomous Region for regeneration.

This is important to the area that has herds of 8.3 million head of cattle, horses, sheep and camels.

In the near future, the region will put 14.7 square kilometers of grassland under total protection to maintain its natural biological balance and improve the degenerated parts to sustain herds.

Some experimental stations will be set up to carry out basic and applied research in pasture management, grazing and improvement of degenerated pasture.

CSO: 4020/344

NEI MONGGOL

BRIEFS

NEI MONGGOL ANIMAL HUSBANDRY--Compared with the same period last year, Nei Monggol registered a net increase of 414,000 head in the number of animals by the end of June, and the number of hogs in stock also showed an increase of 410,000 head. [Excerpt] [Hohhot NEMEGGU RIBAO in Chinese 8 Aug 85 p 1 SK]

NEI MONGGOL GRASSLAND--Hohhot, 3 Aug (XINHUA)--The Nei Monggol Autonomous Region has achieved marked results in developing grassland mainly by implementing a grassland responsibility system and encouraging individuals to invest in developing grassland. In the past 3 years, the region has created more than 17 million mu of grassland. A contract responsibility system has been implemented on 800 million mu of a total of 1.3 billion mu of grassland in the region. [Summary] [Beijing XINHUA Domestic Service in Chinese 0004 GMT 3 Aug 85 OW]

CSO: 4007/433

NINGXIA

NINGXIA REGION EXPANDS ANIMAL HUSBANDRY WORK

OW231226 Beijing XINHUA in English 1038 GMT 23 Aug 85

[Text] Yinchuan, 23 Aug (XINHUA)--Stock-raising has expanded to such an extent in Ningxia that this autonomous region in northwest China is planning to export live sheep to Muslim countries in the Middle East, according to local authorities.

With three million hectares of grasslands, Ningxia is one of China's major livestock-breeding areas, selling large numbers of animals to other parts of China each year.

Now this autonomous region for the Islamic-believing Hui nationality is ready to negotiate with Middle East countries on the export of live sheep.

An official at the regional bureau of animal husbandry said that the number of cattle and horses came to 690,000 in the first half of this year, 9.3 percent more than at the end of last year, while the number of sheep came to 3.08 million, up 11.4 percent.

The total number of livestock was four times the figure in the early post-liberation days in the 1950's, averaging one to each person in the region, said Xin Zhongzhi, deputy director of the bureau.

Tracts of pasture and herds of animals have been contracted out to individual peasants since 1982. This has stimulated the peasants' enthusiasm for multiplying livestock and improving grasslands, Xin said.

As a result, he added, the feeding capacity of the grasslands has increased by 30 to 50 percent.

The government has set up centers for raising milk and beef cattle, camels, sheep, chickens and rabbits and built 98 feed processing mills to provide animal breeders with fine strains, techniques, processor feed and veterinary and marketing services.

The region spends about five million yuan a year on the development of animal husbandry and grants an additional 300,000 yuan for preventing and treating animal diseases in financially difficult areas.

In recent years, the local government has encouraged people to plant trees and grass as part of the effort to improve the ecological conditions of the region.

In 1984, the State Council appropriated eight million yuan to help people in the poor Guyuan area plant grass and develop animal husbandry.

CSO: 4020/344

SHANDONG

BRIEFS

COTTON OUTPUT--Based on the results of a sample survey conducted by the Shandong Branch of the Agricultural Bank of China of more than 11,000 peasant households in 15 key cotton-producing counties, 45 townships (towns) and 90 traditional villages, it is estimated that the total output of cotton in Shandong this year will be about 25.5 million dan, 3.5 million dan more than the State contracted to purchase. After deducting the portion the peasants will use themselves, and based on the production and marketing ratio last year, this year the State will not be able to purchase more than 3 million dan of cotton. In view of these circumstances, it is recommended that concerned departments and specialized households make other plans as soon as possible. [Text] [Beijing ZHUANYEHU JINGYING BAO in Chinese 13 Jul 85 p 1]

CSO: 4007/424

SHANGHAI

BRIEFS

SHANGHAI DAIRY OUTPUT--As of the end of last June, there were over 600 dairy farms in suburban Shanghai with a total of more than 26,000 dairy cattle. During the first 6 months of this year, these dairy farms sold over 32,700 metric tons of milk on the market, a net increase of over 6,600 metric tons over the same period last year. [Excerpts] [Shanghai City Service in Mandarin 1100 GMT 3 Aug 85 OW]

CSO: 4007/432

SHANXI

DRYLAND CORN GROWING IN SHANXI PROVINCE SUMMARIZED

Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 6, Jun 85 pp 6-8

[Article by Xu Guiling [1776 2710 3781] and Hao Jianping [6787 1696 1627], Shanxi Agricultural University: "Summary of Dryland Corn Observation and Study in Shanxi Province"]

[Text] Approximately 10 million mu of corn is grown in Shanxi Province most years accounting for about 20 percent of the grainfield area. Gross output is second only to wheat, but it is first in yield. Dryland corn, which takes up approximately 70 percent of the corn growing area, regulates to a very great extent the corn output for the province as a whole. In order to further tap the potential for increased yields from dryland corn, from 1981 through 1984 we conducted a widespread observation and study of the geographic distribution of dryland corn through the province, natural conditions in each corn growing area, soil characteristics, growing and cultivation techniques to withstand drought, experiences with high yields and existing problems.

I. Status and Characteristics of Dryland Corn Production in the Province

A. Distribution of Dryland Corn

In 1983, the province's dryland corn growing area was approximately 6.4 million mu, or about 73 percent of the area planted to corn that year. Every county except Zuoyun County grew corn. Counties with a sown area of less than 1,000 mu were Zuoyu, Pinglu, Shenchí, Wuzhai, and Ningwu. Counties with the largest area were Shouyang and Jincheng, which had an area of more than 300,000 mu. Second were Xiyang, Pingding, Yuxian, Changzi, Yangcheng, Xiangdan and Hongdong, which had an area of more than 200,000 mu. The county with the highest proportion of the sown area was Changzi, where corn occupied 71.9 percent of the grainfield area. Second were Siyang, Pingding, Yuxian, Yangquan, and Shouyang counties (or cities), where 90 percent of the corn grown was dryland corn.

Note: Also participating in the observation and study were Comrades Yang Jianshe [2799 1696 6080], Hu Zhenqing [0729 2182 3237], Yang Jinzhong [2799 6930 1813], Xiao Hushan [5135 5706 0810] and Hao Jianzhong [6787 1696 0022].

Of the 2.6 million mu of corn grown in Jindongnan Prefecture in 1982, wetlands and plains drylands each grew 500,000 mu; terraced fields grew 400,000 mu, dammed ravine land grew 800,000 mu; hill land grew 300,000 mu; and mountainland grew 100,000 mu. Dammed ravine land and plains drylands accounted for 81 percent of the corn. In the eastern mountains of Jinzhong Prefecture, there is a relatively large number of terraced fields and river flatlands, while in the western mountain region of Luliang Prefecture, there are numerous fields on hillsides.

B. Status of Changes in Dryland Corn Yields Per Unit Area

In 1979 average corn yields per unit area for the province as a whole broke the 500 jin mark though variations from one place to another were great. In 1983, the yield in Jinzhong County was 586 jin per mu, while it was only 170 in Luliang County. Maximum yield in 1982 was in Changzhi County with 749 jin per mu, while the lowest was in Shilou County with 109.

Plots on which dryland corn yields per unit area were more than 700 jin throughout the province numbered one-fifth of the total; plots on which yields averaged 400-500 jin and 300 jin or below each numbered two-fifths of the total.

In addition, as a result of climatic factors, yields were uneven from one year to another, occasioning fluctuations in corn yields per unit area. During the past 30-odd years, the coefficient of variation of yields per unit area was 30.22 percent, including 27.43 percent for Jindongnan Prefecture, 30.71 percent for Linfen Prefecture, 35.19 percent for Jinzhong Prefecture, and 39.28 percent for Xinzhou. The high yield coefficient reached 310.8, which was higher than wheat (140.2), gaoliang (256.5), and millet (168.5), for first place. But yield consistency was off at 3.3094, which was higher than wheat and higher than or lower than gaoliang, but lower than millet (4.8175) for second and third place.

C. Dryland Corn High Yield Examples

For many years, Dazhai Production Brigade in Xiyang County devoted attention to the building of basic farmlands and raised corn yields to around 1,000 jin per mu. Zhengshizui Production Brigade in Zhongyang County used the dryland agriculture farming method of impounding water and gathering manure to improve the soil, raising yields from 300 to more than 600 jin per mu. The level terraced fields of Xiada Production Brigade in Baode County substantially controlled water and soil erosion, stabilizing yields at around 700 jin per mu. In the competition for high yields of corn of the past several years, Yuxian County has consistently produced yields of between 1,300 and 1,400 jin per mu, and an all time high of 1,749 jin. This shows that there is still great potential to be tapped in dryland corn production.

D. Principal Reasons for the Existence of Low-Yield Fields

Low-yield fields are found mostly on hillsides where the slope is great, erosion serious, and watering and fertilizing poor. In Fangshan County,

324,400 mu of the cultivated land area is on hillsides. Figuring a runoff of 63,000 tons of topsoil per square kilometer, the annual runoff loss is 1,362,500 tons, which converts to 1.09 million jin of nitrate, 1,362,500 jin of phosphate, and 1,635,000 jin of potash. The organic content of the soil in several communes in the western hill region of the county is only 0.57 percent. The soil's ability to store water and retain fertilizer is extremely poor, and there are many missing seedlings from crop stands, each mu having only 1,000 to 1,500 plants and yields averaging only 150 to 300 jin per mu.

Dryland corn production in Shanxi Province may be characterized as follows:

1. A wide area of distribution, a large area, and strong adaptability.
2. Great variations in yields per unit area manifested in imbalances from one year to another, from one area to another, and in differences in soil fertility showing that the potential for increased yields is great.
3. There have been many experiences and classic examples of high yields that may be used as a firm basis for further changing of low yields into medium yields and medium yields into high yields.

II. Natural Ecology and Analysis of Advantageous and Disadvantageous Soil Factors

A. Advantageous Factors

1. Ample sunshine and a high amount of radiation: The amount of radiation everywhere in the province in most years is 1,434 kilocalories per square centimeter per year, increasing from south to north. Yuncheng Prefecture, with the least hours of sunshine per year, gets between 2,302.1 and 2,467.8 hours. Yanbei Prefecture, with the most, gets between 2,749.3 and 2,950 hours. Other areas lie between these two. Sunlight conditions substantially satisfy the needs of corn for high yields. Analysis of biological statistics shows that during all corn growing periods in Xixian County, the number of hours of sunshine during May have a positive effect on corn yields; between early June to mid-July, they have a negative effect; and between mid-July to the end of August, they have a positive effect. The positive and negative effects are fairly feeble. For example, for each hour increase in the number of hours of sunlight during early August, yields increased by a corresponding only 0.7 jin per mu.
2. Heat conditions are basically suitable: Except for Youyu, Ningwu, Pinglu, Wuzhai and Wutai (north of Dou Village) counties, where the annual cumulative temperature is lower than or close to 2,300° C when the daily temperature is equal to or greater than 10° C (an 80 percent certainty rate), in most other places in the province it is 2,500° C or higher. By suiting general methods to specific situations in selecting early, medium and late ripening breeds, it is substantially possible to satisfy corn's growth needs.

A look at corn's temperature requirements during each stage of growth shows the proper time for planting to be from early April to early May. During this time, the average daily temperature is equal to or greater than 10° C, which is consonant with the temperature requirements for corn to sprout and produce seedlings. An average daily temperature of 15.1° to 17.9° C during the seedling production stage, and of 18.1° to 19.5° C during the jointing stage is also consonant with corn's temperature requirements for growth. During the tasseling and flowering period, in some places the average daily temperature is in the most suitable 21.8° to 27.4° C range. It is somewhat lower in some places, but not lower than the lowest limit. During the in-the-milk and ripening period, in some years in a small number of places (such as Wutaishan), the average daily temperature is below the lowest limit (16° C or 11° C). This means it is not sufficient for coming into milk and ripening will not take place; however, in most places, normal ripening is entirely possible.

The effect of temperature on corn yields as shown by an integral retrogression curve indicates that in Xixian County the positive effect of temperature on corn yields occurs at two extremes. One extreme is in late April (at sowing time) when for each 1° C increase in average daily temperature, yields increase 6.3 jin per mu. At the other extreme is the ripening stage, i.e., from early August to late September, and particularly during late August when for each 1° C increase in temperature, a corresponding 5.5-jin-per-mu yield increase results.

3. The seasonal distribution of precipitation in most years is basically consistent with the pattern of corn's water needs during its lifetime: Annual precipitation throughout the province ranges between 400 and 600 millimeters, and precipitation during the growing season for corn ranges from 282.7 to 478.2 millimeters, enough to substantially satisfy needs for intermediate and high corn yields. The seasonal distribution of precipitation is also generally consistent with the pattern of corn's need for water. A scant amount during the seedling stage restrains seedling growth in favor of root formation. Water needs are greatest during the booting and tasseling stages, which is precisely the high point during the year for precipitation. This is advantageous for the growth and development of dryland corn, and particularly for moisture requirements during the late stage.

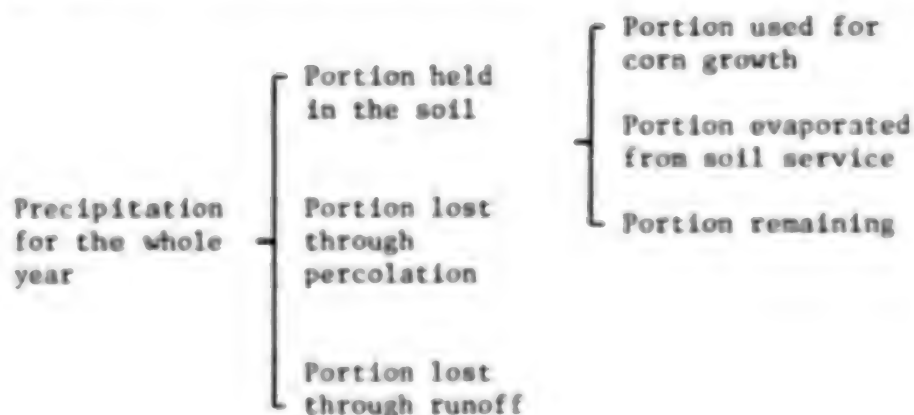
B. Disadvantageous Factors

1. Drought: Both drought and waterlogging occur unevenly from year to year and season to season. For example, the average amount of precipitation over a 20 year period during the corn growing period in Xiyang County was 434.6 millimeters. From 1958 through 1977, it was as low as 400 millimeters in 7 years, the lowest being in 1972 with only 173.3 millimeters. On average, a drought occurred 1 year out of every 3. Seasonal distribution of precipitation in the course of a year showed March through May having only 11 percent, meaning a spring drought 8 years out of 10 on average. There was a summer drought in 4 years and an autumn drought in 2.5 years. Clearly spring drought is most serious. In 1 out of every 3 years, on average, a fight against drought is required during the corn seedling stage, and in 1 out of every 6

years, on average, a fight against drought is necessary during the tasseling stage. During the flowering and grain setting stage, a fight against drought is necessary an average of 1 out of 10 years. Clearly, choking drought [qiabo hen 0595 9126 2487] and late summer drought show a definite pattern. In Xiyang County in 1972, a serious drought occurred throughout the entire corn growing season and yields were only 455 jin per mu, a 42.8 percent decline from what they had been in normal years. Stands of corn lacked seedlings from the time of sowing until the emergence of seedlings, and though rainfall was copious during the mid and late part of the growing season, yields for the year were only 459 jin per mu.

2. Poor soil: Poor soil is yet another disadvantageous factor in dryland corn production. The cultivated layer of soil on hillsides, terraced fields and arid area flat land is shallow, measuring only 4 to 5 cun deep. Its organic content is low at only 0.5 to 1.0 percent and its ability to hold water and conserve fertilizer is poor.

3. Low utilization rate for natural precipitation: Light, heat, and particularly water are major factors influencing corn yields. Water is a major factor affecting year-to-year and region-to-region differences in corn yields. However, even among plots on which the amount of precipitation is the same during any given year, yields may vary widely. The reason is that the production efficiency per millimeter of water differs, and this reflects a different utilization rate for precipitation. The factor that explains the limitation on dryland corn yields throughout the province in most years is not smallness of the absolute value of the amount of precipitation, but rather a low utilization rate for natural precipitation. The amount of precipitation for the whole year may be broken down into the following categories:



Precipitation does not act directly on crops, but goes through the intermediary of the soil to perform its function; therefore, the soil's ability to hold water, to conserve water and to provide water bears directly on the crops' natural precipitation utilization rate. For example, the portion lost through runoff shows how good the state of farmland capital construction is; the portion evaporated from the surface of the soil reflects the soil's moisture conservation properties; the effect on yields of the portion used

for corn growth depends largely on the soil's nutrients. To summarize the foregoing, all the physical and chemical properties of the soil are reflected in the amount of soil fertility; therefore, soil fertility is the major limiting factor in dryland corn yields.

III. Current Dryland Corn Farming Techniques for Withstanding Drought

A. Ditches to withstand drought for bumper yields (dryland agriculture watering impounding, manure collection, and soil improvement farming method): For details please see SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCE], No 9, 1982.

B. Contour trough field planting method: This is suitable for use in hilly dryland areas. The specifics of the method are as follows: (1) Designate a contour line. First, determine a horizontal contour line along the middle of the hillside, then lay out rows. A proper distance between rows on corn land with a slope of less than 30 degrees is 3 chi. (2) Dig a trough with an earth ridge along it. Along the designated distance between rows, dig a 1.5-chi-wide trough, making the outside of the trough high and the inside low, the outer ridge being 6 cun high and solid. (3) Spread fertilizer and work it in deeply. Base fertilizer should be applied at the rate of 100 dan per mu, spread along the trough and worked in to a depth of 0.8 to 1 chi. This method should effectively prevent water and soil runoff and improve the soil's water storage and manure conservation ability.

C. Hole planting method: This is used mostly on flat drylands and terraced fields. The time for digging holes may be right after fall plowing and before the ground freezes or after the ground has thawed and before sowing begins. Distance between rows is usually 2.5 chi, and distance between holes is 3 chi. The holes are positioned in the shape of a plum blossom, with 800 holes per mu and 3 plants in each hole, each mu containing 2,400 plants. The holes should be square, 1 chi on each side, and 1.5 chi deep. The mature top layer of soil should be dug out first, and then after organic fertilizer has been applied to the raw soil underneath, the soil should be dug out of the hole. Finally, the mature soil should be put into the hole and patted into a small mound shaped like a steamed bread that is 2 to 3 cun in height. The hole should be sealed tightly with dirt all around so as to prevent loss of moisture.

D. Other individual actions to fight drought and increase yields:

1. Guala [2171 1866] sowing: Suitable for dry sowing at the right time. For details, please see SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCE], No 1, 1985.

2. Raking and compacting: This produces outstanding results in the soil's ability to store water in fall, to conserve moisture in spring, and to increase moisture following sowing to insure a full stand of seedlings. Experiments conducted in 1983 by the Corn Institute of the Provincial Academy of Agricultural Sciences showed highest yields of 833.8 jin per mu when fertilizer was applied to the fields during fall plowing at a rate of 4,000 jin per

mu, plus raking after plowing followed by raking the land in early spring in icy conditions, followed by raking 20 days before sowing, followed by compacting after sowing.

IV. Some Thoughts on Further Development of Shanxi Province's Dryland Corn

A. Further understanding of the quantitative relationship on corn yields of the natural ecology, soil conditions, and all factors in all places: Working out fine line ecological distinctions, zoning of varieties, and zoning of farming, adapting general methods to specific situations and giving guidance tailored to individual zones.

B. A stable corn growing area, gradual increase in yields per unit area with the emphasis placed on changing intermediate yields into high yields for an increase in gross output of corn.

C. Formulation of workable feasibility plans in conjunction with small stream basin control: Use of farming methods to reduce erosion for a gradual nurturing of soil fertility and creating the fundamental soil conditions necessary for changing low yields to intermediate yields and intermediate yields to high yields.

9432

CSO: 4007/408

SICHUAN

SICHUAN URGES ATTENTION TO DROUGHT WORK

HK131312 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 11 Aug 85

[Text] According to SICHUAN RIBAO, since July, the western part of the Sichuan Basin has had torrential rain, while most areas in the eastern part of the Sichuan Basin have had very little rain.

According to meteorological department statistics, by 8 August some 50 counties and cities in Daxian, Wanxian, Fulin, Chongqing, and Nanchong had been affected by hot weather. Among them, 27 counties had more than 27 dog days. Chongqing's (Shabingba), Changshou County, Qijiang County, Jiangbei County, Yuechi County, Chongxian Fuling County, Fengdu County, and Heijiang County had 31 to 34 dog days. Drought has now appeared in all the above cities and counties, seriously affecting spring crops.

According to an analysis of the recent changes in atmospheric conditions in Europe and Asia and other relevant data, the eastern part of the Sichuan Basin will continue to have little rain, and the hot weather will continue. According to estimates, hot weather will last for at least another 30 days in most areas of the above counties and cities. The relevant areas and departments should pay serious attention to this matter and take effective measures to prevent and fight against drought so as to alleviate the impact and harm caused by the hot weather.

CSO: 4007/432

SICHUAN

SICHUAN HOLDS URGENT MEETING ON FIGHTING DROUGHT

HK140243 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 14 Aug 85

[Excerpt] Due to continuous high temperatures since last July, there is now serious drought in many prefectures and cities of Sichuan. Over 30 million mu of spring-sown crops are now affected. According to the weather forecast, the drought will continue to develop in parts of eastern Sichuan.

In view of this, the provincial CPC committee and government held an urgent telephone conference yesterday evening which demanded that the province take urgent action to step up the fight against drought. Responsible persons of all prefectures and cities and of severely-stricken counties, and leaders of provincial departments concerned, took part in the meeting. Vice Governor Gu Jinchí presided.

Xie Shijie, member of the provincial CPC committee standing committee, made a speech. He pointed out that the province must first strengthen leadership over current agricultural production and antidrought work. Effective cadres from departments concerned must be sent to the frontline in the disaster areas to solve problems and launch and lead the masses to take remedial measures, fight drought, and win a bumper harvest. Places where the drought is serious must exert every effort to reduce losses to the minimum. It is necessary to mobilize the masses to step up crop field management and strive to reap more grain. Management of existing water conservancy projects and water sources must be strengthened.

CSO: 4007/432

SICHUAN

SICHUAN ACHIEVES SUCCESS, FACES PROBLEMS IN PIG RAISING

HK240311 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 24 Aug 85

[Text] According to today's XINXI BAO [Information Journal], following the abolition of purchase quotas and the lifting of price restrictions, Sichuan has achieved great success in pig production this year. The number of porkers marketed in the first half of the year reached 17.15 million, an increase of 3.43 million over the same period last year. Pork production was 2.07 billion jin, a rise of 450 million jin. The number of pigs on hand was 59.91 million, a rise of 3.2 million. Such a rate of development has not been seen in the province since the pig price readjustment of 1979. According to the lowest estimate, the number of porkers marketed this year will not be under 45 million, an increase of more than 6.2 million over last year. Some 28 million of them will be marketed in the second half of the year, a rise of 3 million over the same period last year.

The increased number of marketed porkers and the big concentration in the second half of the year will place tremendous pressure on procurement, slaughtering, storage, transport, and sales work. According to our information, provinces and regions which were previously pork-deficient are striving to achieve self-sufficiency this year and reduce shipments from other provinces. At present it is hard to estimate how much pork the province will be able to ship out. At the same time, the reduced grain output this year may have an impact on pig production next year.

All areas and the departments concerned must therefore take steps as early as possible to avoid difficulties in selling pigs in the second half of the year, resulting in cheap prices and damage to the peasants' interests, and also to avoid a decline in pig production next year, which would lead to a passive situation of difficulty in buying pork.

CSO: 4007/433

TIANJIN

BRIEFS

TIANJIN WHEAT OUTPUT--Tianjin, 23 Jul (XINHUA)--Despite a reduction in wheat acreage by as much as 170,000 mu this year, Tianjin's total wheat output this year increased by over 150 million jin, or 20 percent, over that of last year. This year, Tianjin's total output from its 2,28 million mu of wheat acreage is expected to exceed 800 million jin, or an average of 354 jin per mu, or 85 jin more than last year. [Summary] [Beijing XINHUA Domestic Service in Chinese 0904 GMT 23 Jul 85 OW]

CSO: 4007/433

XINJIANG

NATURAL RESOURCES SURVEY UNDER WAY IN XINJIANG

OW200853 Beijing XINHUA in English 0703 GMT 20 Aug 85

[Text] Urumqi, 20 Aug (XINHUA)--A four-year scientific survey of Xinjiang's natural resources, production capabilities and development potential is now underway to prepare the region for an economic upsurge at the turn of this century, officials here said today.

The survey, carried out by a task force of 315 national and local experts, is expected to produce an overall strategic development plan for the region which, as other parts of China's west, has been designated to receive top priority in economic development around the year 2000.

In scope and importance the current survey, which began in May, is the greatest ever undertaken in Xinjiang, according to officials at the Xinjiang Branch of the Chinese Academy of Sciences.

The current survey is sponsored by the regional government and the Chinese Academy of Sciences. It is divided into 47 programs, covering industry, agriculture, energy development, transport, water and environmental protection.

One survey team turned in a dozen reports on agriculture, animal husbandry, forestry and sideline production after one month's survey in the fertile Yili area on the Sino-Soviet border.

Surveys of geology, geomorphology, climate, rivers, deserts, mineral deposits, glaciers and local produce have been carried out in the past 35 years in this 1.66 million-square kilometer region inhabited by 1.4 million people of 14 nationalities.

Xinjiang is noted for plentiful water, land, sunshine and heat--an ideal place for agricultural and pastoral production.

"People tend to think of Xinjiang as arid, but the region's glaciers have 500 billion cubic meters of water, in addition to 20 billion cubic meters of subterranean water and 90 billion cubic meters of lake and river water," one local expert of water conservancy told XINHUA. "This means 7,700 cubic meters for every local inhabitant, five times the figure for some of the coastal areas."

Xinjiang's oil reserved are verified at 700 million tons, and its coal reserves estimated at about 1,600 billion tons, about one-third of the nation's total.

Xinjiang has 118 types of minerals, and leads the nation in the reserves of beryllium, lithium, white mica and albite.

CSO: 4020/342



XINJIANG

USE OF WATER RESOURCES TO SPEED FARM DEVELOPMENT URGED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL TECHNOLOGY] in Chinese No 4, Apr 85 pp 38-41

[Article by Tian Yuanjun [3944 0337 0193] of the Xinjiang State Land Farm Planning Department: "Improve Water Resource Utilization Rate To Spur Xinjiang's Rapid Agricultural Development"]

[Text] Xinjiang is located in the center of the Eurasian land mass. It has a typical desert climate. It is arid, with 147 mm of annual precipitation and 93 percent of all cultivated land is irrigated, submersed, or sprayed with water. This is the highest figure in the nation. Water is the lifeblood of agriculture. Its role in Xinjiang is even more critical. For these reasons, the questions of finding sources of water and controlling its flow, how to improve the utilization rate of water resources, and how to ensure the rapid development of Xinjiang's agriculture are important ones for the development of China's northwest.

Xinjiang's water resources have the following features:

1. A total of 88.4 billion cubic m of surface water. This is 1.6-fold the amount of the Huang He, and amounts to approximately 7,000 cubic m per capita. This is not only much higher than the figure of 333 cubic m per capita in the Huai, Hai, and Liao watersheds; it is also higher than the national average of 2,700 cubic m.
2. River water resources come primarily from such disparate sources as glaciers, accumulated snow, springs, sudden rains, and melting snow and ice, so that fluctuations in runoff throughout the year tend to be small. The difference between wet years and dry ones is generally around 2:1, while the figure for the Hai He is 6:1 or 7:1 and that for the Huai He exceeds 10:1.
3. Ground water is abundant and easy to reach. Accessible groundwater reserves in flatlands total 23.6 billion cubic m. There is continual shifting back and forth of runoff, surface water, and ground water. Springs on the perimeter of alluvia flow naturally, and few other cities or regions of other provinces have such easily exploitable water conditions.
4. Xinjiang's water resources are composed of intermediate and small waterways. Basically each administrative unit at the prefectural and county level has its own system, its own complete watershed, its own water resources, and its own drainage outlets. This facilitates planning more than is the case in other parts of the nation. In addition, the scale of water projects is comparatively small and easy to implement.
5. Land is plentiful

and flat. It is composed of inclined flatlands (alluvia) at the base of mountains and alluvial plains associated with major rivers. This terrain is extremely well suited for irrigation. Xinjiang has much sunlight and sustained high temperatures, with large variation between diurnal and nocturnal temperatures. With irrigation, suitable farm production would be such high-quality, high-yield, and economically valuable products such as cotton, beets and melons and fruits.

Given that Xinjiang has the above-mentioned favorable conditions, construction costs for effective irrigation have run around 100 yuan per mu, which is not only lower than for other northwestern provinces, but also lower than many places in the northeast. But river and seasonal water distribution is very imbalanced. 1. Spring runoff only amounts to between 7 and 15 percent of annual totals, while water requirements for agriculture during this part of the year are above 35 percent. 2. If a line is drawn from Korla to Qitai, the area to the northwest and to the southeast are about equal in size. But the total runoff volume in the northwest sector is 92.3 percent of the total volume, while that in the southeast is only 7.7 percent. Faced with this situation, Xinjiang's peoples have built 483 reservoirs in the 33 years since liberation under the direction of the central leadership and the guidance of the party and government at all levels, based on the needs of agricultural development (total reservoir capacity amounts to 5.5 billion cubic m). They have also built 344 aqueducts of varying sizes (with total flow capacity of 6,400 cubic m/sec), all sizes of irrigation channels totaling 206,400 km, 29,000 km of drainage ditches, 27,500 mechanized wells, 689 pumping stations, over 1,800 karez wells, 596 small and intermediate hydroelectric stations (with 330 kW of equipment installed), and 1,130 km of flood-control dikes. These water conservancy projects handle a total of over 48 billion cubic m of water and have expanded the area under irrigation in Xinjiang by over 30 million mu, and upgraded old irrigation areas totaling 16 million mu for a total irrigated area of 44.1 million mu. Combined with other factors, this resulted in a 4-fold increase in gross agricultural output between 1949 and 1983, a 4-fold increase in total grain yield, a 4-fold increase in cereal yield, and a 40.5-fold increase in cotton yield. Still, many problems remain for developing for future demand in Xinjiang, northwest in such areas as operation, management, irrigation technology, and basic construction. It is now at the point at which general shortages of water in spring are around 4 billion cubic m. The area suffering spring drought is around 10 million mu, of which disaster conditions strike around 2 million mu every year and serious drought conditions affect more than 5 million. In Kashi, Hotan, and Aksu prefectures during drought years, between 30 and 50 percent of wheat areas receive no water before flood season. Around 200 million mu of natural grasslands are either without or short of water. Currently, artificial irrigation covers only about 2 million mu, a mere 0.3 percent of total grassland area. Overuse of groundwater has become serious in some areas. Average daily water consumption per capita in Urumqi is 40 percent below the national average, and still the excess use of ground water is between 100 and 150 million cubic m per year, resulting in the formation of a groundwater funnel covering nearly 300 square km in area stretching from the city to Miquan downstream. The ground water table is

falling between 0.3 and 0.9 m annually. For these reasons, work should be stepped up in the following areas henceforth:

A. Upgrade Operational Management Standards. This is now the central link in water conservancy work. A sound water-management body and accompanying regulatory system should be established, to strengthen water management and bolster a sense of responsibility among irrigation personnel. Drinking from "the big bowl of water" should be resolutely changed, and entrepreneurial management should be implemented. Regulated water distribution should be widely employed, with fees by the cubic meter and higher fees for excessive usage. Nadaqiniulu commune in Qapqal Xibe Autonomous County implemented issuance of a water chit system in the fall of 1983, with users paying for the chits in cash in advance, and the water department then providing water to the user according to the amount of chits purchased. Irrigation volumes for winter wheat that winter went from 200 cubic m to 121 cubic m per mu throughout the commune, a reduction of 40 percent. The chronic problem of delinquent water fees was solved as well. Implementation of "planned water usage, with assessments by the cubic meter" in late May of 1983 in the Yarkant He watershed led to a reduction of 50 percent in the amount of water going to Yecheng County, while Zepu County took only 60 percent of its normally earmarked volume. This greatly conserved water usage. Tallies for surface water do not take depreciation in basic construction into account; payment is just for management of circulation and is only 4 or 5 mils per cubic meter. Even at that, some prefectures and counties were only collecting 1 or 2 mils, and some collected nothing at all. Xinjiang's investment in basic construction for water conservancy has been running around 120 million yuan annually in recent years, while water receipts have only brought in 20 million. Water fees in irrigated farming only amount to around 2 percent of production expenditures. Thus, the state not only pays for new equipment, project reconstruction and management of maintenance, at the very least, management of water supply fails to pay for itself, and in some cases, state subsidies are needed to pay for personnel outlays as well. As a result, the more projects are built, the heavier the state burden. Likewise, with water so cheap, how much water a user uses has little connection to the user's economic interests, and so water conservation is ineffectual. For these reasons, this problem should be looked into and studied. Water supply costs should be calculated for both industry and agriculture. Assessments should be raised where appropriate. This will assure that water will be conserved and that water projects will be continuously maintained and upgraded. Thus, every drop of water will come to play its part.

B. Reform Field Irrigation Technology. Based upon water department figures, such backward irrigation techniques as large border field flooding and cascade irrigation are still in use on around 20 million mu, at an average of 150 to 200 cubic m per mu; this is 1- to 2-fold more water than is used in more effective small border irrigation and ditch irrigation. These latter methods should be broadly implemented as quickly as possible. In this way, around 2 billion cubic m could be conserved throughout the province. At the same time, spray and drip irrigation should be adopted in appropriate localities and units. Trials have shown that drip irrigation saves between 34

and 74 percent more water than ditch irrigation for Hami melons, with increased yields of approximately 60 percent.

C. Affirmatively Implement Rural "Five Goods" Construction With Focus on Water Conservancy. The "five goods" are good fields, good ditches, good windbreaks, good roads, and good homesites. According to water department statistics, the planning and setup of the "five goods" is already in place on around 12.5 million μ of Xinjiang's total of over 40 million μ of irrigated area. On these lands, the guaranteed water supply rate is high, and well, cistern, and aqueduct supply is assured, and per μ grain yields are above 400 jin. Areas up to "five good" standards now total around 7 million μ of irrigated land. Experiences in advanced model communes such as Buzhake in Hotan County and Yuqiwen in Yining County demonstrate that once water conservancy plans have been made in rural "five goods" construction, irrigated area can be expanded 10 percent with 25 percent water conservation. Fields with well-planned construction can reduce spraying labor by 0.1 worker per μ , save 8 kg of straw for water blockage, and increase grain yields 30 percent. The 147th regiment of the 8th division of the Xinjiang production and construction corp has two adjoining strips of field. Conditions are basically the same; beets are planted; water distribution is even; but the land of one is flat and its unit crop yields are 47 percent higher than on the other nonlevel plot and per μ income is 47.2 yuan higher. Making the land completely level by machine cost only a little more than 1.5 yuan per μ . Land planning should be affirmatively done, along with leveling on a vigorous scale. Old ditches should be straightened. If "five goods" construction were to spread to 30 million μ --and especially if fields and ditches were well managed--the area irrigated could be expanded by 3 million μ at a savings of 4.5 billion cubic m of water, 3 million work days, and 480 million jin of straw.

D. Plan Well for Water Conservancy Construction. The lack of good planning in the past in water conservancy has taught Xinjiang a lesson. For example, due to a lack of comprehensive planning in the Tarim He watershed, there was large-scale clearing of land in the upper reaches. Outlets were dug haphazardly in the middle reaches to draw water off, and there was a dramatic upsurge in water drawn off in these sections of the river. The amount of water reaching downstream was conspicuously down, and flow has ceased entirely on over 300 km of the lower reaches of the river. Grasses and trees have died and the soil is undergoing desertification. The Kuruk Desert and the great Taklimakan Desert are beginning to come together. This has seriously threatened development of grazing production in the region, as well as the strategic road between Xinjiang and Qinghai. Based on centralized leadership and broad emphasis on investigation and research, comprehensive plans for exploitation, use, and management of water resources in every watershed, every region, and even every county and village should be quickly drafted; and these plans should be enthusiastically effectuated. Although Xinjiang has engaged in a great deal of water conservancy construction since liberation, it was never coordinated, and some major-scale projects are in dire need of implementation. Kashi and Hotan still have no key project for correctly blocking and drawing water. Many spots in these two prefectures still rely on tree branches and hemp to secure dikes. This not only fails

to assure water to be drawn off, but the yearly outlay of cash for flood control is over 5 million yuan, along with a great deal of human and material effort. According to an analysis of irrigation districts of over 300,000 mu throughout the province, the lack of coordination in projects means that returns in these districts are up to design only on 70 percent of the area. Water conservancy construction must be continued, especially with regard to coordination of projects to fully realize their potential. In addition, the sand content in Xinjiang's soil is high and irrigation runoff is great. Use of ditches to prevent runoff must be done from now on. The best method is the use of plastic films to prevent such runoff. Results are good and construction costs are only about 60 percent those of asphalt felt and 6 percent those of concrete.

E. Improvement of Salinified Land. This totals around 1.6 million mu of Xinjiang's tilled land. Sample surveys show that per unit yields on these lands are only 25 to 30 percent of those in better soils. Once management has been strengthened and drainage used to control salinity, grain yields can increase from 100 to 150 jin per mu, while conserving 150 cubic m of saline water before planting. Experience demonstrates that digging drainage ditches, when combined with wells and irrigation, ditches to control seepage, planting windbreaks, leveling fields to the flatness of rice paddies, and assessing water usage based on volume as a series of comprehensive measures may effectively handle the problem of salinization.

F. Intensive Farming, and the Road Toward a Kind of Farming Which Saves Water. If Xinjiang had no water conservancy it would have no farming. Water is the most precious of jewels. What is most important is to surround what water there is with intensive farming. Xinjiang's photo-thermal and land resources are abundant. There are still 100 million good mu of wilderness waiting to be developed, which is, relatively speaking, for the "long term." Fertilizers and seeds can be improved artificially. Water alone is the "immediate goal." For this purpose, the makeup of crops should be adjusted. Water should determine farmland, and tilling should be a delicate balance between the two. Xinjiang lacks water in the spring while there is an excess in July, August and September. Photo-thermal resources are abundant. Crop makeup should be in adjustment with these conditions and social demands. Spring water volume in Hotan Prefecture is only 1 percent of the year's total. In the past, too many spring crops which mature in the summer were planted. Since 1979, the amount of such summer grain crops has been gradually reduced in all counties of the prefecture, based on the opinion of personnel and materials supplied from agricultural research surveys and farm planning. Cotton, alfalfa, and green manure areas have been increased. Wheat planting in 1983 was off 79,200 mu, or 6.2 percent. But with an extra watering of extra amounts, popularization of early-maturing wheat strains, and coordinated planting of corn varieties, the wheat yield went up 1.35-fold. Total grain yield on an area reduced by 709,200 mu--or 21.38 percent--was up 48.8 percent. At the same time, cotton yield was up 1.49-fold.

At the present time, with a tabulated area of 47.42 million mu of tilled land in Xinjiang, the real figure based on soil surveys could be over 61 million. Based on uniform calculations, Xinjiang's grain and cotton yields are

49 and 34.2 percent lower, respectively, than for the nation as a whole. But there is great fluctuation between yields between counties and individual farms within Xinjiang, sometimes amounting to a factor of two for unit yields of grain and cotton. Grass yields on irrigated lands are sometimes ten or several tens more than on unirrigated lands. There is a great deal of visible potential. The principles of "letting water determine land" and "balancing land and water" should be adhered to. In the short term, the guiding principle should be broad stabilization of the area irrigated and exploitation of such internal potential to increase production. In this way, the early spring difficulties can be more readily resolved. With increased application of fertilizer, in accordance with the features of the land, and coordinated use of fertilizer and water, along with selected use of improved strains, yields of crops and grasses can be improved, and farm production construction--including water conservancy construction--can reach better levels of economic return.

12303

CSO: 4007/361

XINJIANG

BRIEFS

FINE-WOOL SHEEP--Urumqi, 25 Jul (XINHUA)--The Xinjiang Uygur Autonomous Region has bred 45,000 sheep whose quality wool compares well with the best Australian stocks, the regional Animal Husbandry Bureau said here today. The results over the past few years have been approved by specialists in animal breeding, and are of great importance to the country's wool industry, said a bureau official. At present, China spends about 400 million U.S. dollars a year on importing top-quality wool--mainly from Australia. Research into breeding such sheep was given a leading priority in China's 1981-1985 scientific development program. The specialists said the sheep could survive well in arid and semi-arid countryside. A hundred of these sheep can produce 120 offspring a year on average--a third more than common sheep. [Text] [Beijing XINHUA in English 1630 GMT 25 Jul 85 OW]

CSO: 4020/320

XIZANG

FARM, LIVESTOCK PRODUCTION INCREASES

OW041650 Beijing XINHUA Domestic Service in Chinese 0108 GMT 23 Jul 85

[By reporters Wang Qingchun and Xu Zugen]

[Excerpts] Lhasa, 23 Jul (XINHUA)--With the implementation of the party Central Committee's special policies for Xizang and the improvement of production conditions, the agriculture and animal husbandry of this region are developing beyond the confines of the natural economy, and commodity production is becoming increasingly vigorous in its broad pastoral and rural areas.

As indicated by the statistical material provided by the region's departments concerned, there are now some 47,000 specialized households in various fields and households engaged in more than one kind of production. This is 6.5 times more than the number in 1983. The percentage of marketable products out of the total production of beef and mutton--which are the region's principal animal products--has gone up from 18.1 percent in 1983 to 23.6 percent at present. Prior to 1983 the region had only 11 rural trade markets; now the number has increased to 83. Last year the total amount of products that peasants and herdsmen sold to city and town residents reached 47.61 million yuan, up by 2.2 times and 5.8 times compared with the figures for 1983 and 1980 respectively. This year has seen a further rise in the quantities of agricultural and animal products sold on the market. According to a rural trade market survey conducted by Lhasa City, transactions in agricultural and animal products during the first quarter of this year amounted to 5.7 million yuan, showing a 51 percent rise over the record for the same period of last year.

In the past, poor transportation was a major problem which hampered commodity flow in Xizang. Now there are some 1,800 privately owned automobiles in this region, and specialized households engaged in transportation are transporting goods where the state-operated truck teams cannot reach. In addition, information organizations have come into being in most counties of Nagqu and Qamdo prefectures. Providing the masses with economic information has become a major service to the Tibetan people rendered by the county governments or commercial departments.

In 1980 the party Central Committee decided to carry out special policies for Xizang aimed to reduce its burden and foster its strength. To lighten the burden on peasants and herdsmen, it was decided to exempt them from agricultural and animal husbandry taxes for 10 years and to abolish the system of unified and fixed state purchases. Last year Xizang put into effect the policies of "assigning land to households for use" and "having households raise livestock and allowing households to own the private animals they raised" in rural and pastoral areas respectively. The implementation of these policies has fully aroused the enthusiasm of the broad masses of peasants and herdsmen to develop production and brought about the restoration and development of agriculture and animal husbandry.

During the past 20 years since the founding of Xizang Autonomous Region, agricultural and livestock production conditions have been improved remarkably, and the production level raised to a great extent. This has provided a material foundation for the rapid development of commodity production in Xizang's broad pastoral and rural areas. According to statistics compiled by the departments concerned of this autonomous region, there were 2.25 million mu of irrigated land in 1984, up by 63.2 percent compared with 1965. Tibe an peasants, who just learned to use iron implements for farming in the wake of the democratic reform, now have 7,527 large, medium, and small tractors and other kinds of farm machinery. Application of chemical fertilizers and pesticides and propagation of fine strains of crops are being popularized. The total grain output in the region rose from some 580 million jin in 1965 to more than 980 million jin in 1984. In pastoral areas there are presently over 12 million mu of fenced pastoral farms of one kind or another. An animal disease prevention system has by and large been set up, and initial steps have been taken toward improvement of livestock breeds and pastureland construction. The number of livestock in the region grew continuously from some 15 million head in 1965 to more than 21 million head in 1984.

CSO: 4007/413

XIZANG MOVES AHEAD IN AGRICULTURE, HUSBANDRY

OW141736 Beijing XINHUA in English 1606 GMT 14 Aug 85

[Text] Lhasa, 14 Aug (XINHUA)--Farmers in the Tibet Autonomous Region have gradually replaced the slash-and-burn system of cultivation with the beginnings of mechanized farming, an official of the Regional Bureau of Agriculture and Animal Husbandry told XINHUA today.

The region has more than 10,000 tractors of various types and other farm machines, the official said. More than one-fifth of the region's cultivated land is ploughed by tractor.

Known as "the roof of the world," Tibet's weather is cold, arid, windy and frosty, and the soil is poor.

Through a 30-year effort by the Tibetan people with the help of agrotechnicians from other provinces and regions, reservoirs have been built, ponds dug and irrigation systems formed in the region to irrigate 230,000 hectares, or 60 percent of the total farmland.

Agrotechnical centers and stations have been set up in the region's 36 farming counties. Staffed with about 30,000 scientists and technicians, these units have introduced and developed 77 improved seed varieties of highland barley, wheat, rape and other crops, thus helping boost the grain output of 4,200 kg per hectare from 900 kg per hectare 20 years ago, according to the official.

The new policy enabling peasants to manage contracted land for long periods of time has drawn the interest of the local peasants. They redoubled their efforts and harvested 490,000 tons of grain last year, setting a second-year record for the region.

In addition, the rise of sideline production, transportation, commerce, construction, service trades and tourism has also helped to enliven the rural economy. Most of the region's 46,000 specialized households are located in the countryside.

CSO: 4020/342

XIZANG

XIZANG AGRICULTURAL, PASTORAL RESOURCES SURVEYED

OW242126 Beijing XINHUA Domestic Service in Chinese 1135 GMT 23 Aug 85

[By reporter Zou Wenxiao]

[Text] Chengdu, 23 Aug (XINHUA)--The agro-science survey team organized by the Crop Variety and Resources Research Institute of the Chinese Academy of Agricultural Sciences, the Institute of Agricultural and Husbandry Sciences of the Xizang Autonomous Region, and other units has spent 4 years conducting the first large-scale survey of agricultural resources. The survey team scored remarkable results. The meeting to appraise the results of the scientific survey concluded in Chengdu on 21 August.

This survey began in 1981. A total of 105 scientific and technical personnel from 43 scientific research, teaching, and production units of 15 provinces, municipalities, and autonomous regions throughout the country participated in the survey. In the past 4 years, they covered 69 out of 75 counties in the autonomous region with a total mileage of over 248,000 kilometers. Academic topics surveyed included crop breeding, varietal resources, inheritance, plant taxonomy, plant physiology, plant bio chemistry, plant protection, and economic animals. Through this survey, the scientific and technical personnel gathered many varieties of crops, wild plants, and closely related wild plants; discovered many new varieties and types and wild communities; and found a great deal of reference material with regard to dominant characteristics of plants that are of great value. They also collected some 25,500 samples of various plants and animals.

Through this field survey, the scientists and technologists have clarified the varieties of crops in Xizang and studied the major types of crops, the crop distribution, and ecological changes. Such a survey is of significant theoretical value. At the same time, it also provides valuable scientific data for making policy decisions in the development of Xizang's agricultural and pastoral production. During the survey, the scientists and research personnel wrote nearly 100 theses, reports, and papers on the use of Xizang's rich natural resources in agriculture and animal husbandry. Such theses, reports, and papers are of great significance in promoting agricultural and pastoral production in Xizang.

CSO: 4007/433

ZHEJIANG

BRIEFS

EGG PRODUCTION--State-run stores in Zhejiang purchased 42.08 million jin of poultry eggs in the first half of this year, a rise of 17.6 percent over the same period last year. [Summary] [Hangzhou Zhejiang Provincial Service in Mandarin 1000 GMT 11 Jul 85 OW]

ZHEJIANG FARM MACHINERY--Zhejiang's machine-building industry is actively manufacturing farm machinery to support summer harvesting and sowing, and to combat drought in rural areas. By the end of June this year, the province's total output value in farm machinery increased by 48 percent over the same period last year. The output of walking tractors, small diesel engines, and generators for agricultural use rose by 20 to over 100 percent above the same period last year. Output of transport vehicles for agricultural use went up 252 percent. More than 50,000 water pumps have been produced, representing a 50 percent increase over the same period last year. [Summary] [Hangzhou Zhejiang Provincial Service in Mandarin 1000 GMT 18 Jul 85 OW]

CSO: 4007/417

Forestry

AUTHOR: Zhao Zongzhe [6392 1350 0772]

ORG: Forest Research Institute, Chinese Academy of Forestry

TITLE: "Survey of the Establishment of Farm Shelterbelts and Its Economic Results"

SOURCE: Dalian LINYE KEXUE [SCIENTIA SILVAE SINICAE] in Chinese No 2, May 85 p 184

TEXT OF ENGLISH ABSTRACT: This paper provides a general survey of the achievements gained in establishing shelterbelts since the founding of new China and some main patterns in which shelterbelts were set up in the different parts of the country. This paper assesses in detail the critical techniques used in constructing shelterbelts, with emphasis on projects, silviculture, thinning, regeneration and negative effects on agricultural crops. In addition to the activity of protecting crops from harmful weather, the ecological and social benefits of shelterbelts are also discussed with some examples.

CSO: 4011/35

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